CATEGORIES *of* BEING

Essays on Metaphysics and Logic

Edited by

LEILA HAAPARANTA *and*

HEIKKI J. KOSKINEN

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INTRODUCTION

Leila Haaparanta and Heikki J. Koskinen

Metaphysics has traditionally been understood as "first philosophy," a discipline inquiring into the fundamental structure of reality as a whole and providing the most general categorial framework within which the pursuits of the various special sciences are conducted. In much of the twentieth-century analytic tradition, however, the aims and claims of metaphysics were treated with suspicion or even outright hostility. Despite the fact that in the beginning of the century analytic ontology had briefly flourished in logical atomism à la Bertrand Russell and Ludwig Wittgenstein, philosophy's focus on language and logic, effected largely by studies in the foundations of mathematics, soon led the discipline into a linguistic turn, which was inimical to metaphysics both in the form of logical positivism and in the form of ordinary-language philosophy. F. P. Ramsey's linguistically motivated critique of the universal-particular distinction together with his redundancy theory of truth helped to sow seeds of suspicion. Militant hostility toward metaphysics was epitomized by the Vienna Circle, and especially by its leading intellectual figure, Rudolf Carnap, who explicitly wanted to overthrow all metaphysics and replace it with research into the syntax and semantics of formal languages.

By the early 1960s prejudices against metaphysics were beginning to soften. Two centrally influential figures in this respect were W. V. Quine and P. F. Strawson, who themselves came from the two main branches of the anti-metaphysical linguistic turn. At present, it is generally agreed that a clearly recognizable rediscovery of metaphysics has occurred and that this central subdiscipline is undeniably back on philosophers' agenda. The revival is evidenced by an ever growing number of research papers, journals, monographs, anthologies, textbooks, reference works, and conference programs on various topics in metaphysics. Even if the subtitle of Strawson's *Individuals: An Essay in Descriptive Metaphysics* caused some lifting of eyebrows back in 1959, by the end of the century the time was ripe for publishing a five-volume series with the no longer provocative-sounding title *Analytical Metaphysics*. This collection of essays, edited by Michael Tooley, presents an extensive overview of original metaphysical work undertaken by twentieth-century analytic philosophers.

In the 1970s, an injection of serious metaphysics into the mainstream was delivered by Saul Kripke's work in the formal semantics of modal logic and his published lectures on naming and necessity. While a model-theoretic framework of possible worlds enabled a consistent interpretation of various syntactically defined systems of modal logic, it also involved quantification over possible worlds, and thus seemed to lead to an ontological commitment to entities whose nature needed further clarification. Since then, the metaphysics of possible worlds has been a thriving industry. A central figure in this field is David Lewis, whose strong modal realism takes there to be, in addition to the world that we inhabit, a plurality of spatiotemporally and causally isolated worlds. Lewis originally presented his realism in the context of discussing counterfactual conditionals. The now widely adopted counterfactual approach to causation builds a strong systematic connection between the metaphysics of possible worlds and causation. Another surge of metaphysics into the analytic tradition was provided by Kripke's essentialism in connection with proper names as rigid designators, and the extension of this approach to natural kind terms, which was also suggested at about the same time by Hilary Putnam.

There are various important analogies between temporal and modal notions, and quite naturally, the semantics of modal logic also got applied in discussions concerning the metaphysics of time. In the 1920s, J. M. E. McTaggart had argued for the unreality of time, and in the 1960s, A. N. Prior had dealt with tense logic. From the 1980s onward, D. H. Mellor reinvigorated philosophical interest in McTaggart's argumentation, while David Lewis strongly influenced discussions of the metaphysics of persistence and the identity of objects over time. A recent central issue in the metaphysics of time has concerned the opposition between a tensed "A-theory" of time ordered by the notions of past, present, and future and a tenseless "B-theory" ordered by relations of earlier and later. A closely connected question has to do with the temporal parts of objects, that is, whether they are temporally extended (four-dimensional) entities or ones with only spatial extension (three-dimensional). Perdurantist accounts of persistence are based on the notion of a temporal part, while endurantist solutions assume that objects persist through time by being wholly present at each time at which they exist. Presentism takes only the present to be real, while eternalism denies that there are any ontologically privileged moments of time. These positions are clearly analogous to actualism and possibilism in modal metaphysics.

The return of metaphysics has manifested in various ways: for example, as the metaphysics of modalities, mentioned above; as the metaphysics of subjectivity, studied in contemporary phenomenology, moral psychology, cognitive science, and the philosophy of mind; as the metaphysics of space and time, discussed in the philosophy of physics; and as the debate on realism and anti-realism in the philosophy of language and mathematics. Important contributions to contemporary metaphysics and

ontology have been made by philosophers who are experts in phenomenology and the nineteenth-century Austrian realist tradition, such as Kevin Mulligan, Peter Simons, and Barry Smith. Metaphysics practiced under the label "analytic metaphysics" has interesting connections to phenomenology as well as to the ancient and medieval traditions of metaphysics.

From the late 1970s onward, David Armstrong's work on the problem of universals significantly contributed to a renewal of interest in the fundamental categories of being. Armstrong combined philosophical naturalism and empiricist ontology with a commitment to immanent universals, and argued for a thoroughgoing separation of the theory of universals from the semantics of general terms. With C. B. Martin, he also advocated the truthmaker principle, according to which all truths need to be made true by something existing in reality. Armstrong continued working on different aspects of ontology and presented his comprehensive system of analytic metaphysics in *A World of States of Affairs* in 1997. Toward the end of the twentieth century, an apparently more economical alternative to an ontology of universals and particulars, called trope theory, started to gain prominence. The central idea behind this approach is to treat properties not as universals, immanent or transcendental, but rather as particular instances. Trope theory had been already discussed in the 1920s by G. F. Stout and in the 1950s by D. C. Williams, but in the 1990s it began to rise in popularity due to the work of Keith Campbell and others.

There has been a recent revival of interest also in the multifaceted notion of substance, which lies at the very heart of a traditional conception of metaphysics. In addition to Strawson, an influential figure in this respect has been David Wiggins, who has worked on the themes of identity and sameness. Since the late 1970s, Michael J. Loux has dealt with the ontological structure of substances, especially in connection with their attributes. E. J. Lowe is a contemporary metaphysician who in the context of his four-category framework is also committed to a neo-Aristotelian substance ontology. Since the publication of Peter van Inwagen's book *Material Beings* in 1990, there has been a growing interest in the problem of the material composition of substances. The 1990s also saw the publication of two books on substance by Joshua Hoffman and Gary S. Rosenkrantz. A notion closely associated with substancehood is ontological dependence, which has been discussed by Kit Fine and most recently by Fabrice Correia. This theme connects explicitly with important metaphysical discussions of fundamentality, existential grounding, and the possibility of a bottom level of reality.

A number of methodological and other metaphilosophical problems arise if we take a closer look at the strategies of contemporary metaphysicians. In the twentieth century, analytic philosophers developed logical tools that were employed in analyzing and attempting to solve philosophical problems, hence also ontological problems. In contemporary metaphysics, those tools have a special role in philosophers' efforts to

defend or attack ontological views. On the other hand, many contemporary metaphysicians insist on describing the categorial structure of the world itself, not merely the structure of human language or thought. That amounts to a classical Aristotelian conception of metaphysics as "category theory," in which the categories distinguished and systematized are "the world's own." An alternative picture of metaphysics is what could be called a Kantian view, according to which no categories of the world as it is in itself can be humanly known or linguistically described. According to the Kantian metaphysician, our task is to analyze the categories we ourselves impose on the world, that is, the structure of our own thought or language.

The present volume contributes to contemporary historical and systematic studies in metaphysics by focusing on the relations between metaphysics and logic. By that emphasis, it fits into a broader research program, one that has especially strong roots in Finland beginning in the 1970s and 1980s. In that tradition, interest in logic and its history was combined with interest in the history of metaphysical thought. That kind of research was present in the volume titled *The Logic of Being: Historical and Critical Studies* (1986), which was edited by Simo Knuuttila and Jaakko Hintikka and to which Leila Haaparanta, one of the editors of the present volume, also contributed. By studying metaphysics in the historical context, the present volume seeks to add to the understanding of the field and to help avoid the parochialism that may threaten an ahistorical approach to metaphysics. Simultaneously, the volume discusses the thought of the philosophers critically, thus seeking to make an original contribution to ongoing discussion. In the context of this volume, metaphysics is understood primarily as *metaphysica generalis*—ontology, or the systematic study of the most general categories of being. These categories can be understood not only as categories of what there is but also as logical categories, the idea being that logical or grammatical categories are mirrored in the ways in which we structure being. From this perspective, metaphysics is taken to elucidate certain universally applicable concepts.

Our volume aims at historical coverage of certain influential figures and themes. As the tradition is very rich, some choices between important philosophers and topics cannot be avoided. The volume seeks a balance between different periods; still, early modern, modern, and twentieth-century metaphysics are more extensively studied than the premodern tradition. Thinkers covered include Aristotle (384–322 BCE), Avicenna (980–1037), Thomas Aquinas (1224/5–1274), Duns Scotus (1266–1308), William of Ockham (1285–1349), Gottfried Wilhelm Leibniz (1646–1716), Immanuel Kant (1724–1804), Georg Wilhelm Friedrich Hegel (1770–1831), Bernard Bolzano (1781–1848), Charles Sanders Peirce (1839–1914), Georg Cantor (1845–1918), Gottlob Frege (1848–1925), Alexius Meinong (1853–1920), Edmund Husserl (1859–1938), Bertrand Russell (1872–1970), G. E. Moore (1873–1958), C. I. Lewis (1883–1964), Martin Heidegger (1889–1976), Ludwig Wittgenstein (1889–1951), Rudolf Carnap (1891–1970), Willard Van Orman Quine (1908–2000),

Wilfrid Sellars (1912–1989), Peter F. Strawson (1919–2006), Ruth Barcan Marcus (1921–2012), David Armstrong (1926–), Saul Kripke (1940–), and David Lewis (1941–2001). Not all of these have a chapter of their own, however, for some figure only in connection with other thinkers and specific themes related to their work. The individual chapters seek to cover more than one philosopher's thought and also to take notice of periods in history other than their main focus.

The volume opens with Michael J. Loux's study of Aristotle's categories. Aristotle famously claims that "being is said in many ways," and this claim has been thought to express a deeply problematic thesis. Loux examines three contexts in which Aristotle makes the claim. He argues that one of these contexts, in which Aristotle is telling us that terms that apply to items from different categories have different meanings in those applications, is indeed problematic: because it makes univocal but transcategorial reference impossible, it precludes universal reference and, consequently, makes impossible its own formulation. Loux considers a number of ways of avoiding this problem but concludes that so long as the view is understood as a claim about lexical meaning, none succeeds. He argues, however, that if we follow a proposal we meet in the work of both Terence Irwin and Paul Grice and deny that the claim that "being is said in many ways" is a claim about the meanings or senses of universal terms, we have the resources for avoiding the relevant difficulty. He also develops a reading of the claim that allows for universal but univocal reference. He concludes that there is ample evidence that Aristotle actually endorsed that reading.

In his essay "Dividing Being: Before and After Avicenna," Taneli Kukkonen surveys the reception of Aristotle's categories in the late ancient and Arabic traditions. There is a puzzle when it comes to philosophical encyclopedias and compendia in the later Islamic tradition: Aristotle's categories gradually recede in importance before disappearing from sight altogether. Kukkonen asks what could account for this development and claims that the answer is to be found in the pioneering works of Avicenna (980–1037). Avicenna initiates a move of the categories within the philosophical curriculum from logic, where their treatment traditionally had been placed, to metaphysics, where he claims they rightfully belong. Kukkonen argues that Avicenna nonetheless fails to follow through on his promise to carry out a full metaphysical investigation of the categories; it is worth considering why this is. It turns out that Avicenna is responding to certain problems regarding the Aristotelian categories that had their origins in late antiquity and the late ancient Platonists' appropriation of Aristotelian logic in their school teaching. The troubles that Avicenna faced had to do with the unity of metaphysics as a discipline and the unity of its objects, as well as the ability of Aristotelian logic to capture accurately the contours of reality in its entirety. Kukkonen concludes that while Avicenna managed to resolve many of these problems successfully with his distinction between essence and existence and his understanding of the

subject matter of logic, the categories ended up a casualty of this reordering of the way Aristotelian logic and ontology relate to each other.

The third chapter, "The Metaphysics of the Categories in John Duns Scotus," by Simo Knuuttila, focuses on Duns Scotus's metaphysical views but also pays attention to a wider medieval context, particularly to Thomas Aquinas's metaphysics. Knuuttila states that a special feature of Scotus's philosophy is his unusually broad univocal notion of being as "that to which it is not repugnant to exist." He argues that this led Scotus to distinguish between logical and metaphysical possibilities and to develop an influential theistic metaphysics that had a great impact on late medieval and early modern thinkers. Treating metaphysics as a real science of beings and their potencies, whether finite or infinite, Scotus considered the traditional doctrine of categories as the part of metaphysics that deals with finite beings. Categorial classifications are derived from an acquaintance with the order of finite things, the existence of which is logically contingent. Scotus argued that all categorical items are real particular beings with extra-mental existence. Contrary to his thirteenth-century predecessors, he held that categorical things are simple in the sense that they are not composed of elements. They are individual instantiations of common categorical natures or formalities that have "a less than numerical unity." The view of composite beings as analyzable into categorical inherence structures is combined with an identity theory of predication. Knuuttila tells us that Scotus regarded his approach as a radical simplification of ontology. While this was true of the theory of simple categorical units, one may wonder, as Ockham did, whether the view of concrete beings as multifarious compositions of formalities was so.

In chapter 4, Calvin G. Normore discusses Ockham's metaphysical views. According to Normore, although Ockham apparently never wrote the commentary he planned on Aristotle's *Metaphysics*, he did write enough about being in other works to enable at least a sketch of his position on most of the major issues confronting him and his contemporaries. Normore states that although in his earliest work Ockham may countenance as mere *ficta* items that could not be real beings, in his mature work he begins with a semantics centered on the ideas that terms signify things and that connotative terms signify only those things signified by the terms in their nominal definitions. According to Normore, Ockham argues that anything signified by terms in other Aristotelian categories is also signified by terms in the categories of substance and quality, so while terms in other categories sometimes pick out *n*-tuples of such things, there is a clear sense in which every being is either an individual substance (or an individual part of one) or an individual quality. Ockham is prepared to admit that while many of these are, many others that are not either were, will be, or merely can be, and so while in one sense he is an actualist and a presentist (everything that is is present and actual), in another sense he is not (many beings were, will be, or can be but are not now).

Moreover, Normore points out that Ockham does not think that everything there is actually is a substance or quality. Ockham does not accept any distinction *in re* between essence and existence. He does accept that there is a transcendental sense of being (*ens*), which is univocal across the categories and in its application to both creatures and God. Nonetheless, Ockham admits that terms in categories other than substance and quality signify things in different ways than do substance and quality terms. Normore argues that while Ockham's approach to issues of being differs radically from that of most of his predecessors, he does engage with the issues they raise.

The fifth chapter contributes to both medieval and early modern research. In his study on Leibniz's language of thought, Henrik Lagerlund argues that Leibniz can be interpreted as belonging to the mental-language tradition developed in the Middle Ages by William Ockham. By placing Leibniz between Hobbes and the Cartesians in the debate about the status of truth, Lagerlund brings out his commitment to an ideal mental language mirroring the metaphysical structure of the world. The chapter also argues that Leibniz builds his logical calculus on top of this mental language. The final part of the chapter relates Leibniz's view to that of Ockham. Although the focus of the chapter is on Leibniz's thought, the discussion thus extends backward in time to medieval thinkers and outward to other early modern authors.

Olli Koistinen's chapter brings the study forward in history to Immanuel Kant's views on metaphysics. Koistinen argues that the first source of the difficulty of Kant's *Critique of Pure Reason* lies in Kant's argumentation, which prima facie may look a bit convoluted in places. However, it also seems that the *Critique* does not explain well enough what its aim is and how it should be read. In his study Koistinen seeks to consider the structure of the *Critique* from the viewpoint of metaphysics. The idea is that the *Critique* is a work on metaphysics when metaphysics is conceived as it is in Kant's lecture notes on metaphysics. Koistinen seeks to accomplish two things: first, to help us understand the science of metaphysics as Kant conceived it and to see what metaphysical questions are possibly answerable, and second, to help us understand the structure as well as the content of the *Critique* by looking at it as a work that is intended mainly to solve the problems Kant took to be metaphysical. Kant's critique of the rationalists' metaphysics is presented with special emphasis on the mathematical model. Koistinen then shows that the heart of the *Critique*, "Analytic of Principles," has a structure that closely resembles the structure of metaphysics presented in his lecture notes on metaphysics. The "transcendental aesthetics" of the *Critique* and its corollary, transcendental idealism, are discussed in the chapter as well, and Koistinen pays attention to Kant's negative metaphysics, presented in the *Critique*'s "Transcendental Dialectic." In the end, Koistinen evaluates the problem of the ontological structure of an individual, one that is still much in focus, through a Kantian viewpoint. The aim is to show that perhaps there is in contemporary analytic metaphysics room for a Kantian perspective.

In the seventh chapter, "The Relation of Logic to Ontology in Hegel," Paul Redding states that since Russell it has been commonly accepted that Hegel's metaphysics was irretrievably compromised by the logic that it had presupposed: the traditional term-based syllogistic as transmitted by Leibniz. Unable to properly express relations, it reduced all metaphysical claims to claims about some ultimate single subject of predication, "the Absolute." Redding points out that recently, however, this view has been challenged by interpretations that regard Hegel's logic as a development of Kant's "transcendental logic," which, reversing Aristotle's category theory, attempted to derive the ontological form of the world from the form of our finite judgments about it. Moreover, the implicit formal logic informing Kant's project is seen not as reducible to Aristotelian syllogistic but as closer to the type of proposition-based predicate calculus that Russell saw as replacing it. Redding argues that, in the spirit of Kant, Hegel attempted to extend the scope of Kant's reversal of explanatory direction to metaphysical assumptions that were seen as limiting Kant's own attempts. The result for Hegel was a reconstruction of transcendental logic and its relation to ontology in which important Aristotelian features were retained. Redding argues that many of the features of Hegel's logic, including his controversial attitude toward contradiction, can be seen to result from his attempts to make explicit, and then resolve, an ambiguity between term- and proposition-based logics that was already implicit in Kant.

The eighth chapter, "Bolzano's Universe: Metaphysics, Logic, and Truth" by Arianna Betti, has two aims. The first is to present an overview of Bolzano's universe from the point of view of his metaphysics and its relationship to logic, relying fundamentally on Bolzano's major work, the *Wissenschaftslehre*. Although this is chiefly intended as an exposition of the state of the art on the matter, Betti's preferred reading of Bolzano is one according to which he is a "Platonistic nominalist": a Platonist about propositions and a nominalist about properties. Betti argues that Bolzano's nominalistic tendencies are particularly conspicuous in his mereological analyses, which play a major role in every aspect of his philosophy. Betti's second aim is to answer the open question of whether in Bolzano there is any "ontology of truth." Given Bolzano's all-pervading ontological approach, not least in his logic and semantics, and his place in the history of philosophy, it is natural to ask whether we can find or reconstruct in his thought any notion of a special object fulfilling the office of the ontological counterpart of a truth. Betti defends a negative answer. On Betti's view, Bolzano does not make room for any special object that plays the role of the counterpart of a truth-bearer, or at least his propositions do not connect semantically in a direct way to anything that would count as such a special object.

In the ninth chapter Torjus Midtgarden considers Charles S. Peirce's architectonic plan for constructing philosophical systems and how it bears on his view of the relation between logic and metaphysics. Midtgarden asks whether Peirce can be said to belong

to the model-theoretic tradition in modern logical theory, as has been proposed by Jaakko Hintikka, rather than to the tradition viewing logical language as a universal medium. Midtgarden points out that several facts seem to contradict a straightforward positive answer to this question. First, in his epistemological and semiotical work Peirce developed sign typological distinctions (index, icon, symbol) that he assumed to be valid across natural languages as well as across the very distinction between natural and formal languages. Second, in his logical theory the mature Peirce assumed a universal domain of objects to which all propositions refer. Guided by the observation of such facts, Midtgarden investigates how Peirce's architectonic plan establishes a unilateral dependence of metaphysics on logic. In particular, through several steps he considers Peirce's semiotical analysis of propositional symbols and how it motivates an ontological theory of facts. The upshot of Midtgarden's investigation shows that the very distinction between the model-theoretic view of logical language and the view of logical language as universal medium is not well suited to capture Peirce's understanding of the relation between logic and metaphysics.

Chapter 10 brings us to the discussion that was going on among set theorists and logicians at the end of the nineteenth century and the beginning of the twentieth. Claire Ortiz Hill states that logical experimentation carried out at the intersection of Cantor's theory of sets and twentieth-century attitudes toward metaphysics and logic has unearthed many important questions about the ultimate structure of reality. In particular, the full story of set theory's role in shaping modern logic and in redrawing the boundaries between metaphysics and logic in both the analytic and phenomenological traditions is yet to be told. Hill seeks to add new dimensions to standard discussions by going back to where those two logical roads diverged and casting a glance down the one not taken by mainstream logicians in the last century.

In chapter 11, Peter Simons discusses Meinong's theory of objects and Husserl's formal ontology. He states that they are divergent but cognate responses to Brentano's flawed theory of intentional inexistence. In the schema of act, content, and object developed out of Brentano's work by Twardowski, Meinong emphasized objects and their variety, giving each content its own object, while Husserl emphasized contents and their variety, allowing for contents without objects. Simons argues that both developed rich and complex theories that, modulo Husserl's transcendental turn, agree on many salient issues both of phenomenology and ontology. Meinong, like Twardowski, upheld the objectuality of all intentional acts and was therefore constrained to seek objects, if need be nonexistent ones, for acts lacking standard objects. Husserl, by contrast, rejects nonexistents and explains the same phenomena by saying that they lack objects but are phenomenologically indistinguishable from acts that have objects. Simons shows that this is modified by Husserl's later theory of noemata, on one hand, and Meinong's recognition of the semantic role of incomplete auxiliary objects, on the

other. As a result, he argues, although they never saw eye to eye on nonexistents, their theories materially converged. Simons's contribution charts their principal convergences and disagreements and portrays them both—contrary to Brentano's petulant judgment, and despite their own disagreements about priority—as independent continuers of Brentano's messianic drive to establish a scientific philosophy.

In chapter 12 of the volume, Michael Beaney focuses on logic and metaphysics in early analytic philosophy. The emergence of analytic philosophy has often been seen as inaugurating a linguistic turn in philosophy, a turn with profound anti-metaphysical implications. Metaphysics and epistemology, on this view, were replaced as the basis of philosophy by logic and philosophy of language. Beaney notes, however, that if we look at the work of the four founders of analytic philosophy, Frege, Russell, Moore, and Wittgenstein, we find metaphysical conceptions at the heart of their endeavors. Frege, for example, regarded numbers and truth-values as logical objects, and the ontological distinction between concept and object was fundamental to his philosophy. Both Russell and Moore in their early work developed a realist view of propositions, and even when Russell abandoned the metaphysics of propositions in his later work, this was simply replaced by a metaphysics of facts. Wittgenstein, too, in the *Tractatus*, articulated a raft of theses that seem paradigmatically metaphysical, though their precise status has been controversial. In his contribution, Beaney outlines some of the key metaphysical conceptions of Frege, Russell, Moore, and the early Wittgenstein, and explores the connections with their logical views, taking as his main example the problem of relational propositions. He ends the chapter by addressing the status of the metaphysical statements that Frege and Wittgenstein, in particular, found themselves making.

Chapter 13, by Sanford Shieh, continues the discussion of Russell's thought but also studies C. I. Lewis's logical and metaphysical views. More precisely, the chapter treats a central episode in the development of the logic and metaphysics of modality in the analytic tradition: Lewis's criticism of Russell's material implication. Shieh begins with an overview of some main points in which Russell's conception of logic differs from contemporary ones. In particular, Russell took logic to be maximally general truths describing the relation of implication among (Russellian) propositions. But he also took these truths to be maximally generally applicable standards of correctness in inference. Shieh notes that Lewis's criticism is nowadays often taken to rest on the divergence between material implication and our intuitive conception of logical consequence cashed out in terms of the so-called paradoxes of material implication. Working from the perspective of a Quinean view of logic, Shieh argues that if this is Lewis's criticism, then post-Tarskian semantic accounts of logical consequence provide a compelling reply. On Shieh's view, a more fundamental criticism Lewis makes of Russell is internal to Russell's conception of logic: for Russell a system of logic must not merely enable correct inferences

to be made but also state correct implications. But among the statements of implication derivable in *Principia* are the "paradoxical" ones that Whitehead and Russell find themselves having to avoid taking as normative over their own practice. Shieh argues that in attempting to be more faithful to Russell than Russell himself was, Lewis came to hold that a primitive notion of possibility is required if the laws of logic are to capture the facts of inferential practice. But Lewis's incorporation of modality is meant to revise *Principia* to make its axioms properly logical; it is not, as in contemporary modal logic, meant to set out principles that govern reasoning concerning the special subject matter of necessity and possibility. Shieh concludes his chapter with a brief coda sketching some other aspects of this history, from Wittgenstein's *Tractatus*, which was roughly contemporaneous with Lewis's work, through Carnap, Quine, and the full reemergence of modal notions as central in analytic philosophy through the work of Ruth Marcus, Jaakko Hintikka, and Saul Kripke.

Chapter 14, "On 'Being' and Being: Frege Between Carnap and Heidegger," focuses on late nineteenth-century and early twentieth-century philosophy and considers views on logic and metaphysics held in the early analytic and early Continental tradition. Leila Haaparanta states that one disagreement between logical empiricism and early analytic philosophy, on one hand, and early phenomenology, on the other, concerned the relations between logic and metaphysics. Haaparanta seeks to open up that disagreement. First, as background for her study, she surveys the discussion on the word "is" that was going on among scholars in the latter half of the twentieth century. To some extent, this survey also outlines the background of the present volume, as it builds a bridge between the present study on logic and metaphysics and the research that was done in the seventies and eighties on similar topics. Haaparanta pays special attention to how Aristotle's views were construed in comparison to those of Gottlob Frege in the earlier studies. She then discusses Frege's doctrine of "being" and being and elaborates the interpretation she proposed and developed in the 1980s. She attempts to take a more careful look at Frege's position in the context formed by the opposition between Carnap and Heidegger concerning the relation between logic and metaphysics. She argues that Frege's ideas of "being" and being fall between those of Carnap and Heidegger. She also presents in more detail Carnap's attack against metaphysics in general and against Heidegger's metaphysics in particular. In the end, she makes a few remarks on Frege's view of judging and being. She argues that the so-called veridical meaning of "is" played a central role in Frege's conceptual notation; moreover, if we take that point seriously, we may have reason to modify the view that Frege held the thesis concerning the ambiguity of "is."

In chapter 15, "Quine, Predication, and the Categories of Being," Heikki J. Koskinen discusses W. V. Quine's relationship with metaphysics. He takes it to be a rather complicated matter, and the aim of his chapter is to evaluate some of the various issues involved

by focusing on the phenomenon of monadic predication in a non-modal context. Through a survey of Quine's relevant views, it is argued that although there are plausible historical reasons for perceiving Quine as an influential rehabilitator of metaphysics, in the end too much of his systematic thought remains anchored in the spheres of language and logic to sustain serious ambitions in the study of the categories of being—a distinct theoretical subject. This is because the Quinean take on metaphysics is constitutively based on the combination of a linguistic approach, an idiosyncratic philosophy of logic, and a sentence-based semantics-cum-epistemology that leads to the eventual relativity and indifference of all ontology. It is first seen how with his semantic ascent, Quine shifts the attention from the world to the level of language, and resorts to the ideal linguistic framework of first-order predicate calculus with identity, or the "canonical notation." In his philosophical interpretation of this logical framework, Quine is then seen to remove ontological responsibility first from the predicates and then from the names of his formal language, leaving at this stage the bound variables of quantification as the only referential links between words and objects. Finally, even this last remaining connection between language and world is severed as Quine brings in his structuralistic views emphasizing the primacy of true sentences. Objects become mere neutral nodes in the logical structure of our theory, and reference, reification, and ontology are no longer seen as a goal of science at all. Quine tries to reconcile all this with his "robust realism" by appealing to naturalism, but the coherence of the attempt can be questioned. Moreover, Quine seems to have a very thin conception of the tasks and methods of ontology. Consequently, Koskinen suggests, if we want to pursue serious ontology, then we should go decisively beyond Quine's thought in charting the categories of being.

In chapter 16 Kevin Scharp discusses Wilfrid Sellars's philosophy, particularly in relation to anti-descriptivism, a tradition that was initiated by the work of Kripke, Putnam, Kaplan, and others. He argues that when properly interpreted, Wilfrid Sellars is a staunch anti-descriptivist. Not only does he accept most of the conclusions drawn by the more famous anti-descriptivists, but he goes beyond their critiques to reject the fundamental tenet of descriptivism—that understanding a linguistic expression consists in mentally grasping its meaning and associating that meaning with the expression. Scharp shows that Sellars's alternative accounts of language and the mind provide novel justifications for the anti-descriptivists' conclusions. Finally, he presents what he takes to be a Sellarsian analysis of an important anti-descriptivist issue: the relation between metaphysical modal notions (e.g., possibility) and epistemic modal notions (e.g., conceivability). The account he presents involves extension of the strategy he uses to explain both the relation between physical object concepts (e.g., whiteness) and sensation concepts (e.g., the appearance of whiteness) and the relation between concepts that apply to linguistic activity (e.g., sentential meaning) and those that apply to conceptual activity (e.g., thought content).

Chapter 17, by Hans-Johann Glock, is devoted to Strawson's descriptive metaphysics, which was the first explicit and elaborate rehabilitation of metaphysics within the analytic tradition. Glock's essay discusses Strawson's contributions to metaphysics with a particular view to his conception of the nature of metaphysics-cum-ontology. Glock first dwells on the background of Strawson's metaphysics (sec. 1). He then introduces Strawson's idea of descriptive metaphysics and connective analysis (sec. 2). Sections 3–8 discuss Strawson's main claims: self-conscious experience presupposes a distinction between experience and its mind-independent objects, objective particulars must be situated in a spatiotemporal framework, material bodies are ontologically prior because they sustain this framework, experience and discourse revolve around a fundamental distinction between reference and predication, and both particulars and universals are among our objects of reference. Glock seeks to reconstruct the main lines of argument by combining ideas from *Individuals* and *Bounds of Sense*. Sections 9–11 defend Strawson's modest conception of metaphysics as a second-order description of our conceptual scheme.

Chapter 18 introduces D. M. Armstrong, who is another important figure in twentieth-century metaphysics. The chapter, written by Keith Campbell, provides a comprehensive overview of the development of Armstrong's metaphysics, with special reference to his contributions both to ontology proper and to the place that ontology now commands in anglophone philosophy. Armstrong was among the most influential philosophers in the transformation of philosophy away from the minimalist linguistic and positivist stance of the mid-twentieth century. After beginning with realist excursions into epistemology, particularly the philosophy of perception, he returned to the classic program of Western philosophy, presenting a Materialist theory of mind. This was followed over a period of almost forty years by, first, the development of an Aristotelian realism in the philosophy of universals, the application of this theory to accounts of laws of nature and of possible worlds, and then the presentation of an ontology of states of affairs that embraces modality, the objects of mathematics, and an account of truth appealing to truthmakers. While Campbell's treatment is sympathetic, questions are raised over the need for properties to be universals and whether his system of higher-order properties is fully consistent.

Chapter 19, by Ilkka Niiniluoto, gives a survey of an ontological doctrine, trope theory, which has been claimed to furnish the world with the "elements of being." Tropes as property-instances have been proposed as a serious alternative to universals. Even though tropes thus have a nominalist flavor, the theory can be called "tropic realism," as it has potential for supporting an adequate formulation of critical scientific realism. Trope theory is here related to another ontological view, Popper's conception of three worlds: while bundles of tropes constitute physical objects in World 1, properties as classes of similar tropes can be taken to exist in the human-made World 3. Trope theory also has interesting applications in the history of philosophy.

The volume closes with a chapter on transcendental philosophy as ontology. Sami Pihlström seeks to contribute to the ongoing discussion concerning the nature and proper methodology of metaphysics by arguing that transcendental philosophy—a philosophical orientation inspired by Immanuel Kant and later developed in different ways by phenomenologists, Wittgensteinians, and many others—is, while sometimes taken to be strictly anti-metaphysical and sometimes seen as an unacceptable form of metaphysics, a metaphysical or ontological project in a critical sense. Pihlström argues that this does not make it dogmatic or philosophically suspect; on the contrary, transcendental philosophy offers us a way of engaging in metaphysical inquiry in a reflexively critical and fallibilist spirit. According to Pihlström, its ontological relevance has been clear since Kant himself, the founder of modern transcendental thought. After having clarified the way in which transcendental philosophy is, or can be reconceived as, a form of ontology, the chapter further defends its twofold nature as a project that is both metaphysical and critical of non-transcendental, pre-critical metaphysics through a comparison with pragmatism. There is, arguably, a way in which transcendental philosophy can be "naturalized" in a pragmatist context. Pihlström suggests that this is the proper way of engaging in transcendental metaphysical inquiry in the contemporary philosophical situation.

1

BEING, CATEGORIES, AND UNIVERSAL REFERENCE IN ARISTOTLE

Michael J. Loux

Aristotle repeatedly tells us that "being is said in many ways." Although the slogan has been variously interpreted, the consensus is that it expresses a controversial claim. The slogan has had its defenders, but even in the Middle Ages we find philosophers attacking what is supposed to be the doctrinal core of the slogan, and the criticism has persisted to our own time. Here I want to determine whether this criticism has been justified. More specifically, I want to ask whether there is a philosophical thesis that is plausibly associated with the slogan, reasonably attributed to Aristotle, and as philosophically problematic as critics have claimed.

I

In his attempt to understand our slogan, Brentano directs us to *Metaphysics* Δ.7, the chapter in the philosophical lexicon where being (*to on*) gets discussed.[1] As Brentano reads Aristotle, the "many ways" in which being is said to correspond to the different entries in the chapter, and Brentano tells us that there are four such entries. Evidently, both Ross and Barnes agree with Brentano here. Ross tells us that the chapter lists "four senses of 'being,'"[2] and he writes this reading into his translation of the chapter, where he marks what he takes to be the different "senses of 'being'" with numerals; Barnes preserves the numerical markers in his revised version of the Ross translation.

> Things are said to be (1) in an accidental sense and (2) by their own nature. . . . (2) Those things are said in their own right to be that are indicated by the figures of predication. . . . (3) 'Being' and 'is' mean that a statement is true, 'not being' that is

[1] Brentano 1975, 3–6.
[2] Ross 1924, I.306.

> not true, but false. . . . (4) Again, 'being' and 'that which is' sometimes mean being potentially and sometimes actually. (1017ª8–35)

But where Brentano, Ross, and Barnes find four clearly delineated "senses of 'being,'" other commentators find nothing but problems. The initial difficulty is that of identifying a single division that results in four mutually exclusive and collectively exhaustive options. The four headings Brentano, Barnes, and Ross identify for us do not seem to be genuinely opposed. Indeed, we do not seem to have a single division along a single axis, but rather three or, perhaps, four separate and logically unrelated oppositions. There is the opposition between (1) and (2), that mentioned in (3), and that mentioned in (4); taken by itself, (2) presents us with yet another division. And it is unclear why just these forms of opposition are listed. We are given no reasons for thinking that there is anything principled in the distinctions Aristotle draws here, no reasons for thinking that these and only these distinctions are salient in an analysis of being.

These difficulties call into question the assumption that Δ.7 was intended to have the logical structure of a formal division, and they suggest that we read the chapter in a somewhat less demanding way. An attractive proposal is that we understand the chapter as something like a piece of philosophical therapy. The target of the therapy, we can suppose, is the preoccupation with a certain monolithic picture of the workings of the verb "to be." It is, of course, Platonists who suffer from this preoccupation. They want to say that the verb "to be" and its cognates play a single role—that of expressing or signifying a kind of super-property, a substantive universal with a thick, rich content fitting it out to play the central explanatory role in metaphysics. Aristotle's reaction to the Platonist's preoccupation with this picture, we can suppose, is to insist that the workings of the verb "to be" are far more complex than the Platonist thinks. We do all sorts of different things with the verb, but picking out the sort of super-property championed by the Platonist is not one of them.

We can, for example, use the verb to do nothing more than assert that a given proposition is true (Ross's (3)). Thus, you assert the proposition that *p*, and I say, "Yes, it *is* the case that *p*," "Yes, that is how it *is*" (in Greek: *estin*), or "Yes, things *are* thus." We can also use the verb to ascribe genuine forms of being. There is, however, no single property associated with all such ascriptions. Picking out an individual substance such as Socrates, we can ascribe to him a variety of different forms or kinds of being. We can say what kind of substance he is, thereby ascribing to him a form of substantial being; we can also say how he is qualified, and in doing so, we ascribe to him a form of qualitative being; and there are other forms of being we can ascribe to him, one corresponding to each of the categories.

And there are still other uses of the verb "to be." We can, for example, use it in contexts where we seem to be ascribing one of the categorical forms of being but are really doing something quite different (Ross's (1)).[3] Here, the subject of our discourse is not an individual substance but what Aristotle calls a coincidental. It is something like *seated Socrates* rather than Socrates or *the pale man* rather than the man. A coincidental is a composite or complex structure whose proper constituents are an individual substance and some accident predicated of it. Since no composite can be numerically identical with one of its proper constituents, Aristotle denies that a coincidental is numerically identical ("one in being") with its constituting substance. The relation tying them is the weaker relation of accidental sameness or accidental unity. Thus, *seated Socrates* is not numerically identical with Socrates, but rather they are accidentally one; similarly for *the pale man* and the relevant man. Now, suppose that Socrates is courageous and that the man in question is six feet tall. Then, employing the verb "to be," we can say that

(1) *Seated Socrates* is courageous

and that

(2) *The pale man* is six feet tall

and what we say in each case is true. It can seem that what we are saying is that the relevant coincidentals enjoy, respectively, a certain qualitative form of being and a certain quantitative form of being. But, according to Aristotle, if that is what we are doing, then what we say, in each case, would be false, for he wants to deny that anything other than a substance can be qualitatively or quantitatively determined, and similarly for the other forms of nonsubstantial determination.[4] But while neither *seated Socrates* nor *the pale man* can exhibit the relevant forms of qualitative and quantitative being, each is accidentally one with something that can and does exhibit the appropriate form of being; according to Aristotle, that is what we are asserting when we assert (1) or (2). So there is one more thing that the verb "to be" can do—it can express the relation of accidental sameness or unity.

And there is not just one way that the verb "to be" can play these different roles. In some contexts, its use expresses a state of affairs as fully realized or actually obtaining.

[3] I am reading $1017^{a}6$–22 in the light of other texts where Aristotle discusses coincidentals (*sumbebekata*). See $73^{b}6$–9, $179^{a}1$–2, $1029^{a}20$–23, $1038^{b}4$–6, $1041^{b}5$–7, $1043^{b}7$–11, and $1049^{a}34$–36. For detailed discussions of the topic of coincidentals and accidental unity, see Lewis 1982; Lewis 1991, Chapters 3–6; and Loux 2006.

[4] See $1007^{b}2$–5.

Thus, if we use the verb "to be" to ascribe to Socrates the qualitative form of being exhibited by all swimmers and only swimmers, our ascription can express the fact that Socrates already is a full-fledged competitive swimmer. Suppose, however, that while Socrates is the scion of a family of Olympic swimmers, he is still just an infant. Then, if we say "There is a swimmer for you!" what we say can be true, but not as an expression of the infant's actual possession of the relevant skills; rather, it is an expression of his natural disposition to acquire them. And, of course, this contrast in uses of "to be" is that at work in Ross's (4).

In any case, "to be" is not the semantically monolithic verb of the Platonists' picture; it is a verb that can play a host of different semantic roles, and although those roles do not constitute a single division along a single axis, they do provide materials for the sort of gloss Brentano wants to provide for the slogan "Being is said in many ways." Are they the sorts of materials Aristotle himself wants to associate with the slogan? When he introduces the slogan in Z.1, he reminds us that we have already met the idea behind the slogan in the lexicon, and the reference is almost certainly to Δ.7. Unfortunately, Aristotle's subsequent discussion of the slogan leaves it unclear whether the "many ways" being is said are supposed to correlate with all the different uses of the verb "to be" delineated in that chapter or just the distinctions at work in Ross's (2). In E.2, however, we meet the same materials presented in Δ.7, and there Aristotle twice uses the slogan in conjunction with those materials ($1026^{a}33$–$1026^{b}2$). So it would seem that Brentano was not wrong to correlate Δ.7's different uses of "to be" with the claim that "Being is said in many ways."

But is there anything philosophically problematic in the claim when it is understood in the light of Δ.7? It is hard to believe that there is any in-principle difficulty here. One might, of course, quarrel with the distinctions Aristotle draws. One might, for example, suppose that there are central uses of the verb "to be" that he overlooks; or one might argue that the Platonist can accommodate Aristotle's distinctions without giving up the idea that the central role of the verb is to express a single substantive explanatory universal. But these objections do not point to theoretical problems with the project of identifying different uses of "to be." Consider the contemporary philosopher who tells us that the verb plays three quite different roles: as copula, it expresses predication; flanked by singular terms, it expresses numerical identity; and as a grammatical predicate, it expresses existence. It might be that the contemporary theorist has things wrong here. Perhaps some important use of the verb is being overlooked, or perhaps the three uses are not all equally fundamental, but there is no in-principle difficulty with the claim that the verb plays these three roles. The same is true with Aristotle's claim that "Being is said in many ways" when that claim is understood as Brentano understands it.

II

In Z.1, I have said, Aristotle might be understanding his slogan not in terms of the different uses of the term "to be" set out in Δ.7, but exclusively in terms of the distinctions at work in Ross's (2), where *being in its own right* gets divided according to the categories. The idea, I have suggested, is, first, that when we engage in subject-predicate discourse, we use the verb "to be" to ascribe various forms of being to a thing and, second, that those forms of being generalize to the categories, so that we have substantial being, qualitative being, and so on. The claim is that the forms of being associated with the categories are irreducibly different, that is, that there is no one form of being that, say, substantial being and quantitative being both instantiate. Aristotle is uncharacteristically clear in laying out the general contours of this picture:

> Those things are said to be in their own right that are indicated by the figures of predication; for the senses of 'being' are just as many as these figures. Since some predicates indicate what the subject is, others its quality, others quantity, others relation, others activity or passivity, others its place, others its time, 'being' has a meaning answering to each of these. For there is no difference between 'the man is recovering' and 'the man recovers,' nor between 'the man is walking' or 'cutting' and 'the man walks' or 'cuts' and similarly in others cases. (1017^a22–30)

So Aristotle sees the copula as central in subject-predicate discourse, but he wants to say that when taken by itself the copula is incomplete. It fails to express a substantive form of being—a form of being that is genuinely explanatory—unless it is supplemented by a predicate expression. The claim is that the forms of being that get expressed by the relevant supplementations generalize into a finite number of mutually exclusive and collectively exhaustive kinds—the irreducibly different kinds of being that are the categories. The slogan "Being is said in many ways" is a natural vehicle for the expression of this idea, and Z.1 is plausibly thought to be a text where Aristotle is employing the slogan as just such a vehicle. But if Z.1 leaves any doubt about the connection between the slogan and the idea that there are categorically different forms of predicative being, *Metaphysics* N.2 removes it:

> For not being is said in many ways since being is, and not being a man means not being a certain this, not being straight not being of a certain quality, not three cubits long not being of a certain quantity. (1089^a16–19)

Just as being is said in many ways, so non-being is; the fact that the latter is said in many ways gets justified by the insight, first, that what gets expressed by the application

of a negative predicate is the denial of the form of being associated with the corresponding positive predicate and, second, that the forms of being expressed by positive predicates generalize into the irreducibly distinct forms of predicative being associated with the categories.

So we have a different, more restricted thesis that Aristotle summarizes with the slogan "Being is said in many ways"—the thesis that the kinds of being attributed in subject-predicate discourse generalize into the forms of being identified by the categories. Is there anything in principle problematic about the slogan so understood? Some philosophers will say there is. I am thinking of two types of philosophers here. First, there are philosophers who, in properly Goodmanian style, deny the possibility of identifying in any non-arbitrary way the semantic or cognitive content associated with a given predicate expression. Since they take it to be in principle impossible to individuate predicative contents, they will deny that the project of categorizing those contents can so much as get off the ground. Second, there are philosophers of a Wittgensteinian turn of mind who resist all attempts at providing a systematic treatment of semantic/cognitive contents. For them, no attempt at organizing semantic materials can be anything more than pragmatic, provisional, and local. Pretty clearly, that stricture rules out the sort of classification that is supposed to constitute the Aristotelian categories.

But philosophers sounding Goodmanian or Wittgensteinian themes are in the distinct minority these days; and although one is almost certain to find other philosophers objecting to the details of Aristotle's attempt to classify the forms of predicative being, few nowadays are likely to raise in-principle objections to that attempt. Here it is worth noting that the father of modern nominalism, William of Ockham, was a champion of the semantic picture underlying our current reading of the famous slogan. There are other readings of the slogan "Being is said in many ways" that he is notorious for rejecting,[5] but as he saw it, the idea we are currently associating with the slogan is the metaphysically innocent idea that there is a finite number of very general forms of information that can be conveyed by the predicative use of language.[6] Ockham identifies those forms by way of the various questions that can be posed about a familiar concrete particular and answered by way of predicate expressions. The questions are familiar: What is it? How much/many is it? How is it qualified? How is it related to other things? Where is it? When is it? What is it doing? What is being done to it? In what position is it? What does it have on? Each question calls for a very general kind of information about the concrete particular, and the predicate expressions that

[5] See *Summa Logicae* I.38 in Loux 1974, 122–24, for an attack on the Thomistic reading of our slogan.

[6] See *Summa Logicae* I.41 in Loux 1974, 128–31.

can meaningfully, even if falsely, answer a given question convey that kind of information. The forms of information correspond to what we have been calling the kinds or forms of being, and the inventory of those forms is provided by the framework of categories. If we discount the objections of the Goodmanian or Wittgensteinian, then this overall picture does seem to be metaphysically innocent in just the way Ockham claims; while one might not accept the details of Ockham's scheme, one has to agree that when the slogan "Being is said in many ways" is used to express the idea that there are different forms of predicative being, it does not present us with a philosophical claim that is in principle problematic.

III

We have suggested that it is difficult to know how the Aristotle of Z.1 wants to read the famous slogan. In formulating it, he points back to Δ.7, and that seems to imply the sort of reading Brentano suggests. But Aristotle goes on to say:

> [I]n one way, it (i.e., being) means what a thing is or a this, and in another it means that a thing is of a certain quality or quantity or has some other such predicate asserted of it. (1028^a11–13)

That text most naturally suggests the sort of reading where the slogan is understood exclusively in terms of the Δ.7 distinctions marked by Ross's (2). Z.1 points to a still further reading of the slogan, for Aristotle seems to want to interpret the slogan in terms of a thesis about existential propositions. Speaking of things other than individual substances, he says:

> And all other things are said to be because they are, some of them quantities of that which is in this primary sense, others qualities of it, others affections of it, and others some other determination of it. (1028^a18–20)

This claim is presented as part of the gloss on our slogan. Read in that context, the claim seems to be that expressions such as "is a being" and "exists" have different meanings when applied to items from different categories. We have so far understood the categories as a classification of forms of predicative being, but Aristotle also understands the categories as a classification of things: they are supposed to be the highest kinds or *summa genera* under which things fall.[7] We can see how the idea of the

[7] Aristotle presents both conceptions of the categories in *Topics* I.9 (103^b20–104^a2). For a detailed discussion of these two conceptions and their relation, see Loux 1997.

categories as forms of being unfolds into the idea of the categories as kinds of things if we note that, for Aristotle, predicate expressions have ontological force. For each determinate form of being that can be predicatively ascribed to a substance, there is an entity such that by instantiating it, a substance exhibits that form of being. The result is that we have not merely quantitative and qualitative forms of being but also quantities, qualities, and so on, and just as we can say what a substance is, we can say what a quantity or a quality is. Accidents, so to speak, migrate from the predicate to the subject position. The different ways substances can be get congealed into objects of reference, and we can say that they are things, entities, beings, or existents. No less than substances, they can be the subjects of what we nowadays call existential propositions, but our Z.1 text tells us that when applied to objects from different categories, terms such as "object," "entity," "being," and "existent" have different meanings or senses. Accordingly, we can give a new sense to the claim that there are categorially different forms of being. We have so far taken the claim to express the idea that there are categorially different contents that can be predicatively ascribed to things, different forms of information that can be conveyed about them by the use of predicate expressions. But we now have the idea that what counts as existence varies as we move from category to category. There are, then, different modes of what we might call existential rather than predicative being correlated with the categories, and our text from Z.1 appears to be using the slogan "Being is said in many ways" to express that idea.

Although the hookup with the categories is not as explicit in *Metaphysics* Γ.2, we seem to get a similar parsing of the slogan there ($1003^{a}33$ff.). Commentators have typically extrapolated from these two texts and have read other occurrences of the slogan as this claim about the meanings of terms expressing existence. Indeed, this is the standard way of reading the slogan. Although a few commentators have endorsed the sorts of reading we have already identified in the preceding two sections, the vast majority of commentators understand Aristotle to be endorsing the idea that there are categorially different modes of existence, and they take the slogan to be formulating this idea in semantic terms by way of a claim about the meanings of terms expressing what I have called existential being.

Aristotle, however, repeatedly tells us that, no less than being, one is said in many ways, and he is explicit in claiming that those ways correspond to the ways being is said.[8] Accordingly, if we endorse the standard semantic reading of the original slogan, we seem committed to reading the claim about unity in the same terms: the general term "one" or "one thing" has different meanings or senses when applied to entities from different categories. Now, in *Nicomachean Ethics* I.6, Aristotle tells us that since things from different categories can be said to be good, then good, no less than being,

[8] See, for example, $185^{a}21$–25, $185^{b}6$, $412^{a}8$–9, and $1053^{b}24$–25.

is said in different ways (1096ª23–29). But then the defender of the standard semantic reading of our slogan seems committed to attributing to Aristotle a more general claim, the claim that no term applies in one and the same sense to objects from different categories; if Aristotle accepts this more general claim, then he is committed to denying the possibility of what we might call transcategorial reference, the case where on a single occasion of use a term is employed to refer to objects from different categories. For such reference to be possible, the candidate referring term would have to apply univocally to objects from different categories, and that would require that the term have a single meaning that spans the categories. But if the current reading of the slogan is correct, the existence of the required category-neutral meaning or sense is just what Aristotle is denying.

And now we have a reading of our slogan that expresses a genuinely problematic philosophical thesis.[9] We get a sense of the difficulty here by noting that if the general claim in question is true, then the formulation of the claim we have just presented ("No term has a single meaning when applied to objects from different categories") is impossible, for that formulation incorporates a term ("objects") that is used in one and the same sense to refer to things from different categories. But the problem here is not merely one of formulation. If transcategorial reference is impossible, it is difficult to see how what the ontologist seeks to do is even so much as intelligible, for the ontologist wants to provide an inventory of *all the things there are*, to provide a very general characterization of *those things*, and to display the sorts of priority relations tying *them* together. This difficulty has a special urgency for the philosopher who wants to endorse the general claim. The claim presupposes the framework of categories. That framework, after all, identifies the parameters for the semantics of terms such as "being" and "one." However, if the general claim is true, then it is impossible to say what the categories are. They are, to be sure, a classification; but what do they classify? We want to say that they classify *all the things, beings, or existents that there are*, but the general claim precludes that answer. Nor will a retreat to the formal mode help us here, for while it is certainly true that the categories classify all the referents of "thing," "being," or "existent," the truth of this claim hinges on the fact that the formal mode expression "referent of 'thing,' 'being,' or 'existent'" is itself an expression that applies universally and, hence, across the categories.

Now, we are sometimes told that our current reading of "Being is said in many ways" does permit a kind of universal but univocal reference. The proposal is that we understand terms such as "thing," "being," and "existent" disjunctively to mean "substance or quality or quantity or relation or place or time or action or passion or position or habit." It is important to note, first, that even if it did underwrite a kind of universal

[9] For discussion of the difficulties, see Loux 1973, Loux 1997, and Shields 1999.

reference, the proposal will not help with the more particular problem of explaining what the framework of categories is; it assumes rather than explains that framework. But, second, the proposal succeeds in giving us universal reference only if the long disjunctive phrase is coextensional with terms such as "thing," "being," and "existent." Coextensionality, however, requires that the disjunction be complete. We need to be able to supplement the disjunction with the clause "and these are all the things there are," but if the Aristotelian slogan is understood as we are now understanding it, that phrase is precisely what we cannot add to our disjunctive list.

But there is a further problem with defining expressions such as "being" and "existent" in terms of the lists of categories. Such a strategy builds too much theory into the meaning of those terms.[10] If the disjunctive definition gives us the meaning of a term such as "thing" or "entity," how are we to understand the general claims we make about things, beings, or existents in advance of setting out a theory of categories? In particular, how are we to parse the antecedent claim in which we formulate our intention to provide a theory of categories, that is, a classification of all the things, beings, or entities there are? And how are we to understand talk of all the existents or beings there are when that talk comes out of the mouths of those who defend alternative theories of categories? Do they mean something different than we do when they speak of all the things there are? But then, are we really disagreeing with them when we present our own scheme for classifying all the things or objects there are?

Now, some will claim that our problems disappear when we recall that being is supposed to be a *pros hen* notion. As they see it, our problems have their source in the mistaken idea that the various meanings or senses of transcategorial expressions are completely unrelated. In fact, such expressions have what G. E. L. Owen called focal meaning.[11] Their different senses are interrelated in sharing a single focus. That shared focus is, of course, provided by the category of substance. In the core or basic sense, it is substances that are beings or existents; as our Z.1 text suggests, items from other categories are said to be beings or existents in virtue of standing in one of a variety of different ontological relations to substance.

But does the idea of the *pros hen* really solve our problem? If it is understood in a particular way, I think it might. If the application of the idea of focal meaning to the case of terms such as "being" and "existent" is construed as an instance of reductive metaphysics, then it might allow scope for the univocal use of those terms to refer universally. On this reading, the claim that being is a *pros hen* notion comes out as the claim that all talk about the being or existence of anything other than an individual

[10] This difficulty was pointed out to me by Chris Shields over the course of a long train of email discussions on these topics.

[11] See Owen 1960.

substance can be paraphrased as talk about one or more individual substances. The idea would be, for example, that the claim that a given quality exists can be paraphrased as the claim that some substance exists and it is qualified in the appropriate way. Thus, the claim that the virtue courage exists would be read as the claim that some substance exists and he/she is courageous. Now, if we couple the proposed paraphrases with a syncategorematic treatment of predicate expressions, then the upshot of a generalized implementation of this strategy is a radical nominalism that recognizes nothing but individual substances. We mentioned earlier that we can understand how we get the categories as an inventory of *summa genera* or highest kinds of things out of the classification of the various forms of predicative being if we think metaphorically of accidents as migrating from the predicate to the subject position. The reading we are currently giving the claim that being is a *pros hen* notion would have accidents all repatriating: accidents would return to their predicative origins and would disappear in the process. In any case, this way of understanding the claim does give the result that talk about all the things there are is possible. It is possible because it is no longer a case of transcategorial reference. Ultimately, there are no category differences among things; on the current reading, the only things there are individual substances.

Unfortunately, there are significant costs to this reading. We still face the problem noted in conjunction with the disjunctive analysis of terms such as "thing" or "existent." The account builds too much theory into talk involving those terms. But that problem aside, it is difficult to believe that Aristotle would want to endorse the reductive account of accidents at work in the proposed reading. He certainly thinks that accidents depend on substances, and he believes that the precise form of dependence varies as we move from category to category; but there is no reason to think that he is a reductionist or eliminativist about quantities, qualities, and the like. The view we regularly meet is that even if dependent, accidents are substantive universals with genuine explanatory power. Finally, the proposed reading of the claim that being is a *pros hen* notion gives the result that only individual substances exist only if it is coupled with a syncategorematic treatment of predicate terms; but as we have already noted, Aristotle takes predicate expressions to have ontological force. He thinks, for example, that substantial forms are paradigmatically expressed by predicate expressions, and he takes forms to be the primary cause of the being of familiar concrete particulars.

But if it is not presented as the reductive proposal just outlined, it is difficult to see how the claim that being is a *pros hen* notion helps us with our problem. Let us acquiesce in the suggestion that the claim is to be understood in semantic terms as a thesis about the various meanings or senses of terms such as "being." Although the claim tells us that the different meanings of the term are systematically interrelated, it leaves us with a plurality of irreducibly different meanings or senses, one for each category or highest kind. But then our problem remains. Since terms such as "being" and "existent"

cannot be used univocally across the categories, it is impossible to talk about all the beings, objects, or existents that there are.

Is there any way out of our problem? In an earlier paper, I tried to make headway with the problem by suggesting that an Aristotelian might succeed in bringing someone to understand what the framework of categories is without violating the stricture on transcategorial reference.[12] The strategy would be to display the apparently problematic idea of the categories as *summa genera* of things as an outgrowth of the nonproblematic idea of the categories as forms of predicative being. But even if the suggestion was right, the success attaching to this strategy is limited. The strategy was to *show* what the categories are without *saying* what they are—a classification of all the objects, things, entities there are. But the fact remains that we might want to say what the categories are, and surely we should have the right to do so. Doing so, however, is prohibited on the current reading of "Being is said in many ways." In any case, the problem of saying what the categories are is not the central issue. That problem is just an instance of a more general difficulty. What is supposed to be problematic about saying what the categories are is that it requires reference to everything. Universal reference, however, requires that we use a term in one and the same sense to refer to items from different categories, and on our current understanding, the slogan denies that we can do this. But universal reference is not some specialized form of discourse that occurs exclusively in the technical claims of the category theorist or the formal ontologist. It is simply universal quantification, and universal quantification is a form of discourse none of us can dispense with. However, if terms such as "thing," "being," and "existent" cannot be applied univocally and transcategorially, then we have little option but to do so.

IV

So we have a problem. The problem, however, may be not in the claim that being is said in many ways but in our current understanding of that claim. So, at least, Terence Irwin and Paul Grice would argue.[13] Both want to deny that the slogan represents a claim about what we nowadays call meaning or sense. Irwin's case for this conclusion hinges on a painstaking analysis of Aristotelian concepts such as synonymy, homonymy, and signification, whereas Grice focuses on Aristotle's treatment of what Grice calls semantic multiplicity. If the two are right that "Being is said in many ways" is not intended to be a claim about meaning, then perhaps our problem disappears, for if the slogan is not the claim that terms expressing existence or

[12] Loux 1997.
[13] See Irwin 1981 and Grice 1988.

being have different meanings across the categories, then it is no longer obvious that the slogan prohibits universal reference.

In previous discussions of these issues I assumed the semantic reading that Irwin and Grice attack.[14] I still believe that there is a body of textual evidence supporting that reading. By itself, however, that does not settle matters. What we confront here is the sort of interpretive situation we face all too often in Aristotle studies: there are contrary interpretations of an Aristotelian thesis or doctrine, both of which have significant textual support. In these cases, we have to evaluate carefully the opposing pieces of evidence and reckon up the philosophical costs exacted by the opposed readings, then make a reasoned choice. I now believe that the textual evidence supporting the sort of reading Irwin and Grice defend is stronger than I had formerly thought—indeed, that it is at least as strong as the evidence favoring the alternative reading. When I add in the factor that the Irwin-Grice reading makes our problem tractable, I find it difficult to resist their interpretation of Aristotle's slogan.

The exegetical issues surrounding this debate are too vast and complex for resolution in a paper of this scope.[15] Accordingly, I shall largely prescind those issues. Instead, I will focus on the more particular problem of universal reference. I will try to show how that problem gets a smooth and attractive resolution when we endorse the general sort of reading commentators such as Irwin and Grice recommend, and I will try to show that there are good reasons to think that Aristotle actually endorsed that resolution.

I want to begin with a point suggested by some remarks of Grice's.[16] Aristotle's standard examples of expressions exhibiting the *pros hen* phenomenon are the adjectives "medical" and "healthy," but by one important test, neither turns out to be a term with a plurality of meanings or senses across the different uses Aristotle mentions in justifying the claim that each is a term "said in many ways." We take a term to have a

[14] See, once again, Loux 1973 and Loux 1997. The semantic reading is also endorsed in Shields 1999.

[15] To provide the sort of support the Irwin-Grice reading requires, one would have to respond to the detailed arguments in favor of the semantical reading found in Shields 1999. Although I have not worked out the required response, my target would likely be the line of argument set out on pp. 93–102 of Shields's book. I am not confident that argument justifies the claim that the *pros hen* is, in fact, a doctrine about meaning in a sense that would make it genuinely problematic. However, as I note in the body of the text, the exegetical issues here are very difficult. Certainly some things Aristotle says are amendable to a semantical reading.

[16] Grice 1988, 193. Grice makes the point that although "French" has a single meaning in "French poem" and "French citizen"—that given by the lexical entry "of or pertaining to France"—the term expresses different properties in the two cases. The application of this point to the cases of "medical" and "healthy" is not explicit in Grice. Like Grice, Irwin wants to distinguish the meaning of a predicate term from the properties it expresses in its application to different sorts of objects. See Irwin 1981, 533–37.

plurality of meanings or senses when it receives a plurality of distinct lexical readings in standard dictionaries, but dictionaries typically supply a single meaning for each of these terms, a definition that applies across the different uses Aristotle points to. "Medical" typically gets defined as "of or pertaining to medicine" and "healthy" as "of or pertaining to health." Aristotle's claim that these terms are "said in many ways" is supposed to be justified by the fact that things as different as hospitals, doctors, schools, textbooks, and surgical tools can all be called medical and that things as different as foods, exercises, complexions, spas, and diets can all be called healthy. But notice that the former are all cases where we have something of or pertaining to medicine and the latter all cases where we have something of or pertaining to health.

But then, why should Aristotle think that each of these terms is "said in many ways"? A plausible answer is one Grice suggests but does not develop. In rough terms, the suggestion is that while he would concede that each of the terms has what we call a single meaning or sense across the different uses he mentions, Aristotle wants to deny that in all those uses the relevant term expresses a single property, character, or universal. Grice's suggestion, I take it, is that while uniform in sense in its application to scalpels and doctors, the term "medical" expresses different properties in the two cases. In the first, it expresses the property of being an instrument or tool for the practice of the medical art; in the second, it expresses the property of being a person with knowledge, both theoretical and practical, of the medical art. These are different properties furnishing their possessors with different causal powers. As the term *pros hen* suggests, the two properties are interrelated. Intuitively, both involve the art of medicine. Nonetheless, they remain distinct properties. There is no single genuinely causal or explanatory property to which the two properties can be reduced. Being something of or pertaining to medicine is at best a mere pseudo-property. So for the two cases we have a single meaning with irreducibly different but related properties expressed. The same pattern appears in the other uses of "medical" and in the various uses of "healthy."

Another term Aristotle discusses seems to exhibit the same phenomenon.[17] As noted earlier, in *Nicomachean Ethics* I.6, Aristotle tells us that since things from different categories can be called good, good is said in many ways. Now, it is implausible to suppose that Aristotle means to claim here that "good" has what we would call lexically different senses or meanings in "good horse," "good meeting," "good location," and "good disposition." It is far more likely that what he intends to say is that in these different uses "good" expresses different features, characters, properties, or universals. Just which feature or property the adjective expresses, he wants to say, depends on the noun it modifies. Again, one meaning, but different properties or characters.

[17] Irwin mentions this case. See Irwin 1981, 539.

So meanings and properties do not always match up. A predicate expression can have a single lexical meaning in its application to different objects and yet express different properties when so applied. Now, Aristotle appeals to the terms "medical" and "healthy" to exemplify the semantical behavior of terms such as "being" and "existent," and in the *Nicomachean Ethics* text the behavior of "good" was supposed to mimic that of "being." But then, we can expect Aristotle to hold that in their different uses "being" and "existent" have a single invariant meaning but signify or express different universals. As in the case of "good," the different uses of "being" and "existent" are their applications to objects from different categories. So when he insists that being is said in as many ways as there are categories, Aristotle is not denying that "being," "thing," and "existent" have a single meaning when applied to categorially different objects; what he is saying is that those terms express different universals when so applied. Of course, he wants to go on to claim that the different universals are all tied together by involving, in different ways, the notion of substance, so that while they are "said in many ways," terms such as "being" and "existent" are, nonetheless, *pros hen* expressions.

The foil for Aristotle's account here is once again the Platonic account of being or existence. On that account, the abstract singular term "being" signifies a substantive universal with real explanatory power, and the same is true of the singular term "one." In virtue of standing in the appropriate relations to these universals, each object is constituted as an existent and one thing. Aristotle responds to this account with another slogan. He tells us that neither being nor one is a genus (998^b21–27). He wants to deny that, taken by themselves, the terms "being" and "one" signify any genuinely explanatory universals or kinds. The contrary view, he would likely claim, has its source in a grammatical illusion: we find abstract singular terms here and conclude that there must be universals answering to those terms.

As Aristotle sees it, the terms "being" and "one" are grammatically but not semantically complete expressions. They pick out substantive or explanatory universals only when combined with other terms, terms that express essences or kinds in their own right.[18] There is no such thing as just plain being; there is rather being a dog, being a geranium, or being a human being. Likewise, there is no such thing as just plain being one; there is instead being one dog, being one geranium, and being one human being. So being or existence unfolds into a plurality of forms or types, one for each irreducibly different natural kind. Accordingly, being or existence is something different for things from different Aristotelian *infimae species*, and the same is true for being one. Those forms of existence, of course, generalize, so that we can speak of generic forms of being; and those generic forms of existence give rise to still more general forms. There is, however, a limit to the generalization possible here.

[18] See, for example, 1042^b25ff., 1053^b24ff., and 1087^b32ff.

That limit is provided by the framework of categories. As we have said, the categories represent the most general kinds of being; and they do so precisely because they are the highest kinds or *summa genera* under which things fall. So there is no one character or universal expressed by all uses of "being," "thing," or "existent." There are at least as many characters as there are categories; and that is what Aristotle means to tell us when he says that being is said in as many ways as there are categories. But even though these terms express different characters or universals when applied to objects from different Aristotelian categories, it does not follow that when so used, those terms have what we call different meanings or senses.[19] As we have noted, the meaning of a predicate is something different from the character or universal it expresses or signifies. The former can be invariant, while the latter varies as the term is applied to different objects.

By itself, however, this fact does not quite give us what we need if we are to solve our problem. What we have so far is that universal terms can exhibit a single meaning despite the fact that they can be used to express different characters. But what we need is a use of those terms in which they apply not to objects from this category or that but to everything, and a use of that sort must be one in which the term expresses none of the characters associated with the various categories over which it ranges. Now, the insight that these terms have a single sense removes a reason for thinking that universal reference is impossible, but it would nonetheless be wrong to infer from the fact that the relevant terms have a single meaning when used to express the very general but distinct characters associated with the categories that there is a use over and above those uses—a category-neutral use. What we need, then, is what we might call a character-vacuous or kind-vacuous use of universal terms, a use in which a term such as "thing" or "existent" applies to everything and so expresses none of the characters idiosyncratic to the various categories.

Here, unfortunately, the analogy with "medical," "healthy," and "good" fails to help us, for if one concedes that there is a character-neutral use for each of these terms, a use in which we can speak of "all the medical things," "all the healthy things," or "all the good things," one is almost certain to insist that the relevant use is to be explained in formal mode terms. Thus, all the medical things are just all those things to which "medical" applies, all the healthy things are all the things of which "healthy" is true, and all the good things are all the things picked out by the adjective "good." As we have seen, however, the retreat to the formal mode does nothing to take the mystery out of universal reference. The proposal that "all the things there are" be analyzed as "all the

[19] Grice suggests this reading of the claim that being is said in as many ways as there are categories. See Grice 1988, 186. See also Irwin 1981, 538.

objects to which the expression 'thing' applies" simply replaces one term of universal reference with another, syntactically more complex term of universal reference.

So a solution to our problem requires not merely that universal terms have a single meaning; there must also be a use of those terms that is category-neutral, a use in which the terms express none of the characters associated with the various categories. More precisely, since ours is problem of Aristotelian interpretation, a solution to our problem requires that Aristotle at least thought this. And there is evidence that he did. For one thing, he repeatedly uses terms such as "being" and "one" to pick out everything, and he shows no qualms at all about using the apparatus of universal quantification to speak of all the things there are. More to the point, he uses such transcategorial expressions in precisely the contexts in which he is laying out the doctrine that "being is said in many ways."[20] If it is understood as a semantic thesis about the distinct meanings or senses of terms such as "being" and "existent," that doctrine would preclude the sort of transcategorial reference Aristotle invokes, and it is only reasonable to suppose that he would have recognized that fact; in the same way, if the doctrine precluded a character-vacuous use of these terms, it is only plausible to suppose that as the author of the view, Aristotle himself would have appreciated this almost self-evidently transparent fact. But he uses the universal terms to apply to everything in a single sense, a sense that is category-neutral and, hence, category-vacuous.

Furthermore, Aristotle tells us explicitly that being and one are predicable of everything.[21] Pretty clearly, he is not saying that there is a pair of very general characters or universals—being and unity—that everything exhibits or instantiates. In denying that the terms "being" and "one" express genera or kinds, he certainly means to be rejecting that Parmenidean/Platonic claim. What he is saying when he tells us that being and one are predicable of everything, I take it, is just that there is a category-neutral and, hence, character-vacuous use in which terms such as "being," "existent," and "one thing" can be applied to everything.

But is there a more direct form of evidence for this claim? Do we ever find Aristotle actually saying that there is what I have been calling a property-vacuous or character-vacuous use of predicate terms? The fact is, we do; or, at least, if we can trust Alexander of Aphrodisias, we do. In his commentary on *Metaphysics* A.9, Alexander tells us that in the *Peri Ideon* Aristotle claims that when used in a single sense, negative predicates such as "non-man" and "non-horse" apply to objects without expressing any genuinely explanatory property or character.[22] According to Alexander, Aristotle finds it absurd to suppose that there is some property common to all the items to which a negative

[20] See, for example, $1003^{b}13$–16, $1004^{a}34$, $1025^{b}3$–4, $1028^{a}18$, $1028^{b}1$, $1030^{a}21$, and $1061^{a}7$–11.

[21] See, for example, $127^{a}26$–27, $998^{b}20$–21, and $1059^{b}31$.

[22] The text of this section of Alexander's commentary is found in Fine 1993, 13–19.

term applies, a property that the predicative use of that term expresses or signifies. A line and a man, we are told, are both non-horses, and yet there is no property common to both that gets expressed by the application of the predicate "non-horse." Evidently, Aristotle's standards for propertyhood are higher than those of philosophers who would object that both exhibit the property a thing has just in case it is not a horse. As Alexander's Aristotle sees it, when we apply the term "non-horse" to an object, we are not ascribing any property to that object. What we are doing, on the contrary, is denying that the object in question has a property—the property of being equine. So denying that an object has a property is not ascribing some other property, such as the denied property's complement. Genuine properties furnish their possessors with causal powers, and being a non-man or non-horse does not confer any causal power on the things that fail to be human or equine.

So negative predicates such as "non-man" and "non-horse" can apply in a single sense to objects without expressing any property or character; or at least that is what Aristotle is supposed to have claimed in *Peri Ideon*. Admittedly, that is not the strongest piece of evidence one could hope for, but the fact is that in another early text, one that survives, we find Aristotle assuming just this point about negative predicates. More significant is that he uses the point to show how universal expressions function. In *De Sophisticis Elenchis* 11, Aristotle tells us that some of the concepts at work in the universal discipline of dialectic are

> true of everything, though they are not such as to constitute a particular nature, that is, a particular kind of being, but are like negations (172^{a}36–38)

It is pretty clear that he has in mind terms such as "being," "existent," "thing," and "one thing," and what he is telling us is that while they are used in one and the same sense to refer to everything, these expressions do not express a single property or character in that universal use; rather, he tells us, in this respect they function like the negative predicates mentioned in *Peri Ideon*.

So not only do universal terms such as "thing," "being," and "existent" have a single sense when applied to objects from different categories, but they also have a category-neutral use, a use in which they express no character, no "particular kind of being." They have the sort of character-vacuous use required for universal reference, and that fact is presumably compatible with the fact that these terms are said in many ways. But, then, even when understood as a claim about existential uses of "being" and its cognates, the slogan "Being is said in many ways" does not preclude universal reference or quantification. And if that is so, then it does not seem that our slogan, when understood in that way, is any more problematic than when it is understood in the ways Brentano and Ockham recommend. Perhaps, then, the slogan deserves a better hearing than it typically receives.

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2

DIVIDING BEING
BEFORE AND AFTER AVICENNA

Taneli Kukkonen

There are important historical reasons for why Aristotle's *Categories* came to stand at the center of a centuries-long debate concerning the fundamentals of ontology, having to do mainly with the school curricula of late antiquity and the rise and fall in Plato's and Aristotle's academic fortunes. The philosophical reasons, meanwhile, can be gleaned from a single statement in Aristotle's *Metaphysics* Delta: according to Aristotle, there are as many categories as there are sorts of "beings in their own right" or essentially (*kath' auto: Met*. 5.7, 1017a21–22). This would be enough to motivate a serious study of Aristotle's brief treatise on the categories. More generally, and more to the point, it would seem to reserve a special place for anything designated by "category." For on Aristotle's view, there would be a special correlation between modes of predication and modes of being. As Alexander of Aphrodisias puts it in his comments on this passage, a very special kind of positing takes place here, inasmuch as each of the categories designates an independent stature (*hyparksis*) for the things that fall under it.[1]

But how exactly is the relationship to be construed? On this question the late ancient philosophers were divided. The first part of this essay sketches the attempts made by the ancient commentators on Aristotle to make sense of the putative relation holding between words, concepts, and things, and the way they believed these to relate to Aristotle's categorical scheme. It will become apparent that the late ancient Platonists managed to turn Aristotle's (relatively down-to-earth) language and thought upside-down in an ingenious coup. Their motivation in so doing was that the Platonists regarded the intelligible world as prior to the sensible, which to them indicated that metaphysics, conceived of either as a study of being as such

[1] *In Met*. 371.18–27. All references to the ancient Aristotelian commentaries are to the *Commentaria in Aristotelem Graeca* (Berlin, 1882–1909); as a rule, English translations derive from the *Ancient Commentators on Aristotle* series.

(Aristotle, *Met*. 4.1) or as a study of the principles of being (*Met*. 1–2), would have to point beyond the confines of our familiar sensible world to be a discipline worth its promise: it would in essence have to become a theology (*Met*. 6.1). A further implication is that everyday language, which designates everyday objects, must stand in a mediated relationship to what is really real. But what then becomes of the categories?

Considering the intensity of this discussion, and the fact that the *Categories* were commented upon by most major philosophers in the Arabic tradition as well, it is curious to see a clear shift in attention occur in Arabic philosophy. Aristotle's ten categories, though they still receive a nod in the customary presentation of Peripatetic ontology, yield to other concerns, principally the list of issues consolidated in the works of Abū ʿAlī Ibn Sīnā (the Latin Avicenna, 980–1037 CE): necessity and contingency; essence and existence; emanation and return; genus, species, and unity. The "Metaphysics" of Avicenna's first and most expansive philosophical encyclopedia, *al-Shifāʾ* or *The Healing*, is rightly hailed as initiating a new phase in the history of Western ontology: it constitutes the first real stab at a modal metaphysics in the Western tradition, at the same time as it reimagines and rearranges several notions traditionally associated with metaphysics. The second section casts a brief look at Avicenna's main innovations from the point of view of their significance for the Aristotelian quest of categorizing being.

Besides its intrinsic value, Avicenna's vision also proved uncommonly persuasive. His *Prima philosophia sive scientia divina* (the most common Latin translation of the "Metaphysics" in *The Healing*) provided the starting point to most Scholastic discussions on metaphysics, while the more streamlined versions presented in Avicenna's later works became equally influential in the Islamic world.[2] The last section of this brief survey outlines some initial Arabic responses to Avicenna's pioneering work.

LATE ANTIQUITY

On the most basic level, the metaphysical legacy bequeathed by the classical world upon posterity was one shared by both Plato and Aristotle. In the briefest of terms, this can be summarized as follows: the universe exhibits certain everlasting and immutable structural features, which serve at once to lend to the world the measure of reality that it enjoys and to make that same reality intelligible to the rational observer.[3] The intellect of such a rational observer will, upon the correct cognition of said features, become

[2] For a concise assessment of the importance of Avicenna's metaphysics to late Scholastic metaphysics, see Dumont 1998 and Janssens 2003; on the categories, see Pini 2002.

[3] The principle that eternity and immutability are in and of themselves hallmarks of being harks back to Parmenides and is clearly spelled out in Plato's *Timaeus* (27d and ff.); in Aristotle it is found, e.g., in *De caelo* 1.2 and 1.11–12, in *De gen. et corr*. 2.10, and in *Met*. 12.6–7.

structurally isomorphic with the reality thus observed. Our language in turn has the task of tracking as faithfully as possible the veridical perceptions we have of the aforementioned structures and patterns: as the sixth-century CE commentator Ammonius puts what became the standard interpretation, words "signify things through the intermediary of concepts."[4] This is what makes the study of categories, as so many modes of predication, a useful exercise not only to the linguist, psychologist, and logician but also to every aspiring philosopher. The patterns evident in our language and perception can, and do, serve as pointers to corresponding patterns in reality.

The crucial difference between Plato and Aristotle is that for Aristotle, the perpetual patterns upon which the mind fixes are embedded in corporeal reality itself, in the ordinary world everywhere about us, whereas at least in the dogmatic form of Platonism to which the late ancient schools were heirs they are to be located in a separate and timeless realm of Ideas.[5] Among other things, this led to the great medieval debate regarding the ontological status of the universals. The battle lines are handily drawn by the Andalusian commentator on Aristotle Abū al-Walīd Muḥammad Ibn Rushd (the Latin Averroës, 1126–1198 CE):

> According to Aristotle, the universals are collected by the mind from the particulars: that is to say, the mind takes the similarities between these and forms a single meaning or intention (*maʿnā*), as is said in the *Posterior Analytics*. Plato, by contrast, postulates that the universals are subsistent things which in and of themselves exist outside the soul . . . his view is that their existence is more perfect than that of the existents and precedes them [in rank], on account of the fact that with the removal of the universals the particulars are removed as well, whereas the universals are not so removed with the removal of the particulars. Because of this belief he postulated the universals to be the principles and forms of sensible substance. (*Commentary on the Metaphysics* XII, comm. 4, 3:1417.7–15 Bouyges)

Seen in this light, Aristotle's *Categories* reads as an almost gleefully anti-Platonic treatise. Not only does Aristotle assert emphatically that what is to be termed primary

[4] Ammonius, *In Cat*. 9.17–18; the interpretation may go back to Iamblichus (d. ca. 325 CE), for whom see Olympiodorus, *In Cat*. 28.25–28. It is noteworthy that Simplicius (*In Cat*. 10.19–20) credits already Alexander of Aigai, who was a teacher to the emperor Nero, as having included simple concepts (*noêmata*) as a mediating step between simple expressions and simple realities.

[5] For the purposes of this essay I will sidestep the important question of whether the *Sophist* and the *Parmenides* represent an internal critique of the theory of Ideas. To the late ancient philosophers they did not; instead, they were thought to point to a level of reality above Being itself and likewise beyond the Ideas.

substance (*prôtê ousia*) is the worldly particular and not the man or the animal as kinds (*Cat*. 5, 2a12–b6), but his actual classification of the "many ways in which things are said to be" seems to follow from a classroom exercise in enumerating the kinds of questions that can reasonably be asked concerning a given individual human being—Callias or Socrates, say.[6] For Aristotle, the latter is a fundamentally metaphysical task, for in order to sort out our intuitions about the way things are, a certain measure of disambiguation is necessary. As Aristotle puts the matter in the first book of the *Metaphysics* (1.9, 992b18–24), "In general . . . it is fruitless to look for the elements of all the things there are without distinguishing the different senses in which things are said to be." Aristotle's original results, most contemporary scholars agree, are resolutely down to earth and point in the direction of a pluralist ontology. Qualities differ from quantities because one type of item remains fundamentally irreducible to the other, and the same distinction is preserved in clear and unequivocal language use.

The majority of the late ancient philosophers were Platonists, however, and so such an understanding of the way in which conclusions about ultimate being might be reached (to say nothing of the conclusions themselves) was deemed deeply unsatisfactory. According to the standard interpretation, Plotinus (205–270 CE), on whose efforts the systematization and elaboration of Platonic doctrine largely rested, accordingly mounted a detailed critique of Aristotle's categorical scheme in his treatise *On the Kinds of Being* (*Enneads* VI.1–3). It then fell to Plotinus's student Porphyry of Tyre to suggest a way out and show how the committed Platonist might legitimately make use of Aristotelian categorical teaching after all. Porphyry's ameliorations carried the day, and so Aristotelian materials concerning the categories were reinstated as the opening part of the Platonic curriculum.[7]

Regarding the categories, the central problem was this: when Aristotle talks of the several ways in which things are said to be, do we put the emphasis on the "said" or on the "be"? In other words, does the *Categories* treat logic, or ontology, or in some way both? The weight of Aristotle's own discussion goes in the direction of treating the nine categories of accident as types of being (these are said to *be in* a subject) while reducing the genus and species to logical designations (things *said of* a subject), leaving as the ultimate subject of predication itself the particular individual.[8] These conclusions would be fundamentally repellant to the Platonist. The gist of Plotinus's criticism is that Aristotle's categories do not apply to the higher

[6] See Gillespie 1925.

[7] For the standard interpretation see, e.g., Evangeliou 1988; for the view that Porphyry merely extends Plotinus's project, see Haas 2001 and Strange 2007.

[8] As noted by Lloyd 1955–56, 154–55.

realm of intelligible reality, and that for this reason the five Great Kinds (*megista genê*) of Plato are to be preferred. The five Platonic kinds—Being, Sameness, Difference, Rest, and Motion, as counted off in the *Sophist*—are sufficiently general to map out reality in a truly universal fashion. Porphyry never denies this, nor does he claim anywhere that the *Categories* would be a deeply metaphysical work: in fact, after Porphyry's time it became standard to say that the *Categories* is a work for beginners. Porphyry simply suggests that Aristotle's categories might perhaps be useful for the more limited purpose of sorting out sensible, sublunary reality. The *Categories*, after all, starts from the way in which we—that is, embodied human beings—speak about things, and all human talk and communication necessarily has to start with our experience of sensible reality. So Aristotle can be right, in his limited way, about the things he addresses, since when we talk about sensory reality the natural assumption is indeed that particulars underlie universals and are prior to them. And the road remains clear for disclosing the higher Platonic Kinds in a later stage in the student's education.

Even so, does Aristotle's classification scheme not seem somewhat arbitrary? The late ancient commentators on Aristotle, who saw their purpose as one of elucidation rather than that of casting aspersions, could hardly have come up with Kant's later complaint that Aristotle's list of ten categories looks thrown together heedlessly and without rhyme or reason.[9] Still, they could not help but notice that the corresponding list in *Metaphysics* 5.7 includes only eight items instead of the full ten featured in the *Categories* and the *Topics* (1.9) and that the two missing categories are the ones most clearly associated with human life to the exclusion of other types of worldly substance (these are "being in a position" and "having," which is to say, posture and possession).[10] Earlier critics had also tried to reduce the number of Aristotle's categories, in the most radical case by bringing them under the twin headings of being that exists "by itself" (*kath' auto*) and being that exists "relative to" (*pros ti*) something else, thus reducing all the categories under the headings of substance and accident (Simplicius, *In Cat*. 61.19–63.26). Moreover, the Stoics had proposed their own list of four categories. The commentators were well aware of these earlier critiques and therefore felt the need to find in each of the ten categories some value. Simplicius, for his part, provides both an argument from authority and one based on reason. The authoritarian defense picks up on Iamblichus's earlier suggestion that

[9] *Critique of Pure Reason*, B107; Boethius's promised treatment of this point (*In Cat*. 180C) is missing.

[10] Averroës writes in his *Metaphysics* commentary that the two have been left out not due to any oversight but either because Aristotle wishes to be brief or because they are "latently" present (*Commentary* V, comm. 14, 557.4 Bouyges). Cp. also Aristotle, *An. post*. 1.22, 83b16–17.

Aristotle's list of ten categories would have been modeled on an earlier and identical list drafted by the famed Pythagorean Archytas—to the neo-Platonist commentator, this was high recommendation indeed.[11] As for reasoned argument, Simplicius also produces a rational derivation of the categories, though not before attaching a number of qualifications to any such presumptuous exercise.[12]

Simplicius is additionally helpful in pointing out that previous controversies surrounding the status of one or another category are in the end mere quibbles (*In Cat*. 63.26–30). What matters, certainly from a Platonic point of view, is how any of Aristotle's suggested categories relate to the universal and the particular. What is crucial to understand about the late ancient position is that to the Platonist philosopher, anything encountered on the more general level of analysis is to be considered more productive in the causal sense, and hence more real, than the more specific, since in it are contained the more specific principles, in the same way that effects are contained in their causes. This would make the genus prior to the species, which in turn is prior to the individual, and would grant the categories, as *summa genera*, an exalted position as designating the most general principles of being (and hence also its divisions). Proclus Diadochus, the longtime headmaster of the Academy of Athens (412–485 CE), explains:

> The genus is the "single idea" spread through many separate things and existing in each of them; for the genus is not an assemblage of species, like a whole of parts, but is present in each of the species as existing before them and participated in both by each of the species and by the genus itself . . . though it is outside them, as transcending the species, yet it contains the causes of the species; for to all those who posit Ideas, real genera are thought to be both older and more essential than the species ranged under them; the realities existing prior to species are not identical with the characters that exist in the species by participation. (*Commentary on the Parmenides*, 650 Cousin; trans. Morrow and Dillon)

Thus "animal" is essentially, though not temporally, prior to "human being" and "horse," given that humanity and equinity alike take part in animal nature. And additionally, of course, all of these are prior as principles to their sensible instantiations,

[11] See Simplicius, *In Cat*. 67.22–25. The reduction of the categories into four primary ones and six further, accidental ones, derived in a combinatory fashion, likewise surfaces under a Pythagorean guise: see Simplicius, *In Cat*. 13.21–26, 51.3–4, 68.22–28; Nicomachus, *Intr. Arithm*. II.22. Through the Brethren of Purity these notions get transmitted to Islamic learning, reaching as far as the thirteenth-century *Sicilian Questions* of Ibn Sabʿīn, for which see Akasoy 2006, 388–89 (Arabic text), 515–16 (German translation).

[12] See Thiel 2005, 172–75.

such as Napoleon and his horse Marengo.[13] In each case the general is said to "produce" the specific in a way that is not immediately apparent to the twenty-first-century reader but which clearly has a well-defined technical meaning within the neo-Platonists' own system of thought (Simplicius, *In Cat*. 69.24–32; see Lloyd 1990). What seems clear is that a certain logical map of the universe, derived in a priori fashion, is allowed to dictate the terms on which the reality we encounter is thought to unfold. The approach is deeply un-Aristotelian, but it accords with the Platonist project as understood in the early Academy.

With the assumption of such a systematic view of reality, something like the Syrian Platonist Iamblichus's (d. 325 CE) "intellective theory" (*noêra theoria*) of Aristotle's categories becomes not only understandable but also actively desirable. In a seeming effort to bolster further the status of the *Categories* within the neo-Platonic curriculum, Iamblichus is said to have suggested deeper metaphysical readings for each of Aristotle's modes of predication. Something akin to relations, positions, quantities, and so on apply also to the intelligible level of reality; or, to put it in a way that would have made more sense to the neo-Platonist, the categories according to which predication is conducted in the sensible world merely mimic and reflect the primary way in which these items are to be found in the intelligible world. Not everyone accepted the intellective interpretation, though those who did not then faced the problem of explaining whence the validity of Aristotle's categorical scheme derived.

But for all the effort expended on reconciling Aristotelian categorical theory with Platonic ontology, the supposedly Pythagorean principle that "everything is in everything, but in a manner proper to each" would inevitably serve to rupture the Aristotelian project of finding univocal ways of speaking about reality.[14] After all, the divide between the domains of Being and Becoming (to wit, the Ideas and sensible nature) could hardly be drawn more sharply in Plato's *Timaeus*, while the late ancient Platonists' habit of adding layers of reality between as well as above the two only adds to the confusion.

[13] The priority of the genus to the species, it should be noted, is of a logical rather than of a temporal character. The Athenian Platonists held with Aristotle that one only finds "animal" in isolation as a mental abstraction: in the sensible world, one only ever actually finds horses, human beings, and other fully determined members of ultimate species. *A fortiori* in the intelligible universe the species are unfolded from, and found together with, their parental genus all at once (although here, too, "at once" must be understood timelessly). See Syrianus, *In Met*. 6.36–7.38.

[14] See here Porphyry, *Sentences*, XXIV Della Rosa; Proclus, *Elements of Theology*, prop. 103; for the ascription of the principle to Pythagoras, Syrianus, *In Met*. 83.12ff. In causal language, the same principle can be rephrased as "each entity participates in its ruling causal principles in a mode proper to its order of being" (Syrianus, *In Met*. 109.9–10).

For one thing, the notion that participation in a given principle varies according to the level of reality we are talking about multiplies the senses in which one speaks of the universal or "the common item" (*ta koinon*), since, as the sixth-century commentator Simplicius puts it, "the common cause transcends its effects and is something different from them in all respects. It is common as a cause, but not as a common nature" (*In Cat*. 83.10–11). This means that just as the eternal examplar of Horse is different from the horseness that exists in the many (which again differs from the universal abstracted from these by the human mind), so also the intellective categories will differ in various ways, some subtle, some not, from the categories under which embodied things fall.[15] But how then is talk of, say, this position or that comparable to talk of Position-in-itself (in the Platonic sense)? Or sensible substance to intelligible Substance? Already Plotinus had protested that Peripatetic chatter about sensible "being" as if it were truly Being is just as foolish as saying that Socrates and a portrait of Socrates fall under one genus (*Enneads* 6.2.1, playing off *Cat*. 1, 1a1–5).

There are uses for all the neo-Platonists' distinctions, to be sure; they are not introduced frivolously. For instance, differentiating between the being enjoyed by a paradigmatic Form and the sensible image's share in that same being can become a handy tool for rejecting Aristotle's Third Man argument (Syrianus, *In Met*. 111.27–112.6). Still, if claims about Man and "mortal man" are not said synonymously, as for instance Syrianus claims, then what use does Aristotelian logic, with its reliance on the Aristotelian categories (and the Aristotelian *Categories*), enjoy anymore in the context of metaphysics? At this juncture, two ways of splitting the difference present themselves. One might say with Porphyry that language is primarily a tool for people to communicate their everyday opinions and that consequently words only designate intelligible things metaphorically and by extension (see Dexippus, *In Cat*. 41.19–30). Alternatively, one might audaciously claim with Proclus that the naming conventions used in the privileged Platonic mode of speaking do indeed capture features of the intelligible and divine worlds, thanks to their divinely inspired provenance.[16] But in either case, Aristotelian logic bears only a limited relation to the true structuring of reality, just as Aristotelian metaphysics only deficiently captures its contours. A. C. Lloyd puts it best:

> The theorems of Aristotelian logic will be true for the Neoplatonist—but only half the truth. In formal reasoning it will yield valid conclusions in virtue of its

[15] Sorabji 2005, 133–34, enumerates no fewer than seven different ways of interpreting the term "universal" in the ancient commentaries on Aristotle.

[16] On Proclus's approach to naming and being, see Berg 2008.

> rules of implication: but these rules will not adequately represent the structure of real things. This is how the position appeared to Plotinus's successors. (Lloyd 1955–56, 149)

For the late ancient interpreter of Aristotle's *Metaphysics* there is no question that metaphysics deals with substances in the supernal world. The question, rather, is whether entities in the sensible universe may also be called substances and hence objects of first philosophy in the proper sense (see Syrianus, *In Met*. 3.37–39). There are hints to indicate that though they are to be treated as such for purposes of convenience alone, the reality is something different: earthly substances so called are substances only in a "secondary, or even lower sense" (Syrianus, *In Met*. 162.5–6) and may in fact be nothing more than bundles of properties, with no underlying substantial cohesiveness to them at all. This would certainly go a long way toward explaining our slippery grasp on them, but it would seem to compromise the unity of metaphysics as a general ontology.

Admittedly, to the committed neo-Platonic philosopher all this might be of little consequence. Even though Aristotle terms metaphysics the study of being qua being (Aristotle, *Met*. 4.1; see Simplicius, *In Cat*. 9.29–30), far more important to the neo-Platonists of late antiquity was its alternative designation as theology (Aristotle, *Met*. 6.1, 1026a17–20; Simplicius, *In Cat*. 4.23). One studies Aristotle in order to ascend to a recognition of the common principle (*arkhê*) of all as something utterly transcendent, as the goodness-itself beyond every good thing (Ammonius, *In Cat*. 6.9–16). This level is reached through metaphysics, which is geared toward the separate, the intelligible, and the divine (though it does not terminate in it, since divine revelation through the mystery religions is needed in order to ascend fully).[17] And even though other disciplines provide valuable stepping-stones, they constitute in the end merely preparatory work for the highest goal of the human soul intellectual task, namely, its ascent toward its divine origin. The order of study may necessarily be what it is, not only given who and what we are (descended souls) but also because of the nature of the subject matter.

In the case of the most common kinds, that is, the categories, the sixth-century commentator John Philoponus explains that "since they do not possess more fundamental principles, it is necessary to craft lessons concerning them [starting] from things posterior in nature" (*In Phys*. 10.7–8). This is to say that the way in which knowledge about first principles is attained cannot be demonstration proper, but must

[17] Already Plotinus declares that the true philosopher employs the Platonic dialectical method of division and collection, a claim that exposes the pretensions of Aristotelian metaphysics to theology or "first philosophy" as a sham; against this, Porphyry finds room for the traditional curriculum where metaphysics gets placed on the highest rung of philosophical endeavor. See Strange 2007.

instead occur by way of a proof through signs.[18] Accordingly, the exploration of the genera and species in their undiluted, paradigmatic form becomes a task for the theologian, not any longer for the natural philosopher or logician (11.29–30). Similarly, even though the metaphysician will include sensible beings in his investigation, he does so only in the sense that derivative sciences are implicitly included in the study of the more fundamental ones.[19] But this opens the philosopher to an objection as old as Theophrastus's (d. 287 BCE) treatise, which history has rightly regarded as the first set of critical notes on the project of the *Metaphysics:* the highest science should be a theory of *everything*—of all things without exception, perhaps of all things equally—not just of those deemed the highest or "first."[20] As will become apparent, this problem was singled out for discussion by the Arabic philosophers.

AVICENNA

The preceding overview of some of the ancient debates concerning Aristotle's *Categories*, while necessarily superficial, highlighted some of the problems that the Arabic interpreter of Aristotelian teaching encountered when approaching his materials. One concerns the way that Aristotelian metaphysics is presented as a discipline: on the one hand, metaphysics points to the study of supernal principles, while on the other it is supposed to be a universal science of being *qua* being. Similarly ambiguous is the status of the categories: sometimes these are presented as if they would signify only mental abstractions derived from sensible particulars, whereas in other contexts (notably, in Aristotle's own text) they come across as so many divisions in being tout court. But if the categories treat the latter—and if the *Categories* is a work of metaphysics—then why is their study traditionally placed with logic? And what is one to make of the inapplicability of the categories to the first, immaterial principles of all things? Does this not make a mockery out of the categories' supposed relevance for metaphysics, of the unity of metaphysics as an investigation of all being, and of the supposed connection between logical analysis and metaphysics?

In light of these questions, what is striking about the work of Avicenna is the extent to which he is able to cut through the thicket and offer principled solutions. First in his major encyclopedia *The Healing* and then in a series of refinements presented in various works, Avicenna tackles many of the fundamental problems of metaphysics head-on. As an ancillary result, the question of the categories gets brushed aside—rather elegantly, as it happens, but brushed aside nonetheless. The

[18] On such so-called tekmeriodic proofs, see Morrison 1997.
[19] For references and commentary, see Tempelis 1998, 47–52.
[20] See van Raalte 1993, 26.

following survey attempts to situate Avicenna's thinking on the matter in the context of earlier Arabic discussions, for it is plain enough that his innovations did not occur in a vacuum. To the contrary, much of what Avicenna has to say is indebted in particular to the prior efforts of al-Fārābī in this field.

a. On the question of the aims and subject matter of metaphysics, the nature and scope of Avicenna's contribution is relatively clear.[21] Prior to Avicenna, one school of thought—arguably the majority opinion—had followed the first philosopher of the Arabs, al-Kindī (ca. 800–870 CE), in holding that metaphysics aims at elucidating the manner of being of the First Cause and the way that it functions as a cause for everything. (Call this the theological-etiological view of metaphysics.) Al-Kindī in his expository treatise recounting *The Quantity of Aristotle's Books* accordingly explains that metaphysics is so called because it deals with what does not depend on matter either for its definition or for its existence (*Rasā'il*, 1:368.16–17 Abū Rīda). Al-Kindī's independent work *On First Philosophy*, though in some ways difficult to characterize, takes a broadly axiological view, indicating that first philosophy has as its object the First Cause given the fact that in its knowledge, knowledge of everything else is included (*On First Philosophy*, 11.13–15 Rashed and Jolivet; see D'Ancona 1998). As we have seen, this equation of metaphysics with theology is broadly in keeping with the teaching of the late ancient schools, though important differences remain. For instance, following the adaptation of neo-Platonic materials into Arabic, the Arabic Aristotelians regarded God as the supreme Being or absolute Being rather than something beyond Being, as the Greek neo-Platonists had done.[22]

In contrast to al-Kindī, Abū Naṣr al-Fārābī (d. 950) in his short treatise *On the Aims of Metaphysics* contends that metaphysics must be a truly universal science and that consequently it must have being as such or being in the absolute sense of the word (*muṭlaq*) as its subject matter.[23] The systematic reason for this is that each particular science must take its principles from a more universal one, and this hierarchy of knowledge must terminate in a discipline "in which the principles of all the particular sciences and the definitions of their subject matters are explicated" (*Aims*, 36.18–19 Dieterici). This will be an investigation of substance above all, but also of its concomitants and consequent properties (*lawāḥiq*)—unity as well as multiplicity, potentiality and actuality, perfection and deficiency, and the like. For all these various avenues of investigation, al-Fārābī manages to find precedent in Aristotle, although it is notable that when he mentions the categories as an additional object of study to the metaphysician, no corresponding Aristotelian passage is cited. At any rate, al-Fārābī has acerbic

[21] See Gutas 1988, 238–54; Bertolacci 2006, 111–47.
[22] See Adamson 2002, 124–37.
[23] For an English translation and analysis see Bertolacci 2006, 65–88.

words for those Neoplatonists who came to Aristotle's *Metaphysics* expecting to find there an account of emanation from supernal principles (Creator, Intellect, Soul), as well as for those theologically minded Muslims, al-Kindī included (see *Rasā'il*, 1:384.7–10), who had wished to read into the project of the metaphysics the Islamic injunction to establish God's unity (*tawḥīd*). Such notions, al-Fārābī points out, find no support in any analysis of Aristotle's original treatise (*Aims*, 34.8–13).

Avicenna's most comprehensive and influential treatment of the matter is contained in the fourth part of his encyclopedic work *The Healing*. The section on metaphysics—which, we should note, is called "Metaphysics" (*al-Ilāhiyyāt*)—begins with a masterly piece of misdirection. Right at the outset (I.1), Avicenna acknowledges that it is only in first philosophy that one may demonstrate the existence of separate substances and investigate the nature of immaterial reality. In a deft turning of the tables, however, Avicenna next outflanks the party that would make of first philosophy a theology on the basis of this. Because no science can demonstrate the existence of its proper subject matter—this must rather be taken as a "principle," or a given within that particular field of investigation—God or the Necessary Existent cannot possibly be the subject (*mawḍū'*) of metaphysics, but must instead be that which is sought (*maṭlūb*) in it. The second chapter is then used to establish that the proper subject matter of metaphysics will be "the existent, inasmuch as it is an existent" (*al-mawjūd bi-mā huwa mawjūd*) and what pertains to it, just as Aristotle had said in *Met*. Gamma. The notions of metaphysics as theology and metaphysics as ontology are thus both preserved, but with one subordinated to the other: theology belongs to metaphysics as a part, but only incidentally, as it were. The lifeblood of metaphysics consists in the investigation of the existence of existents, which is an entirely universal science and as such provides the principles for all the other sciences.[24] All of this is in line with what al-Fārābī has to say in his *Aims*, though Avicenna's treatment is significantly more expansive and proved immeasurably more influential.[25]

b. Aristotle's *Categories* found its way into Arabic learning early on thanks to its place in the Syriac curriculum. We know of a plethora of paraphrases, summaries, and commentaries; the Arabs also knew of the Greek commentary tradition, to the point that Ibn al-Nadīm's (d. 998) catalogue records some awareness even of Iamblichus's intellective explanation of the categories.[26] Still, the theoretical aspects of the discussion seem largely to have escaped most Arabic thinkers, so that, for example, the

[24] See further *The Healing*, "Logic: Demonstration," II.7, 165–66 Madkūr.

[25] For a comparative study see Bertolacci 2006, 88–103. In the late work *The Easterners* Avicenna goes so far as to fence off a separate fourth part of theoretical inquiry to complement the standard division of physics, mathematics, and theology: this fourth science is the universal science (*al-'ilm al-kullī*), which according to Ibn Sīnā has always existed but seldom been acknowledged.

[26] See Peters 1968, 7–12.

relation that the categories bear to metaphysics and logic, respectively, seems not to have been a primary concern for the early Arabic tradition. Instructive in this regard is the example of the *Letters of the Brethren of Purity*, an eclectic philosophical work stemming from the late tenth century: with their comprehensive ambition and synthesizing (not to say syncretistic) tendencies, the *Letters* were for a time a direct competitor to Avicenna's encyclopedias, and so form a useful counterpoint to his investigations. According to the *Letters*, the intellectual insight (*baṣīra*) achieved by the ancient philosophers allowed them to perceive accurately the realities of things (*ḥaqā'iq al-ashyā'*), which led them to distinguish between matter and form, substance and accident, and furthermore to assign names to nine types of accidents in accordance with the kinds of accidents there are in the world. These are the meanings or intentions (*ma'ānī*) of the aforementioned expressions (*Rasā'il*, 1:404–5). Here Aristotle's list of ten categories is affirmed as having a basis in reality: at the same time, the categories are clearly of secondary importance when compared to the more fundamental divisions between matter and form and between substance and accident. What is more, the Brethren seem to posit that the categories signify things in the world directly, rather than conceptual or mind-dependent entities. This would be a reversion to Porphyry's position, which was considered crude already in late antiquity.

Again, the discussion reaches a new sophistication in the works of al-Fārābī.[27] Al-Fārābī answers a question that seemingly had not been posed in the previous philosophical literature, namely, what are the categories, anyway? Set aside for a moment the question of what Aristotle's actual treatise, the *Categories*, deals in—words, concepts, things—for that question was believed to have been answered by the late antique philosophers, and to have been answered well (the *Categories* deals with things, insofar as they are signified by words, through the intermediary of concepts). The deeper question still remains: which level is thought to be most fundamental for the identification of the categories *as* categories?

Al-Fārābī's position on the face of it is plain. The categories are primarily and predominantly intelligibles, which is to say, mental entities: they are "the most universal among single concepts, which are based upon sense-objects because they are to be predicated of sense-objects," as the matter is put in the *Commentary on the Categories* (tr. Zonta 2006, 197–98; cf. *Book of Particles*, §4 Mahdi). Yet despite its simplicity, or indeed precisely because of it, al-Fārābī's way of pinning his definition on the middle part of the triad of words, concepts, and things allows him to bridge the divide between the two roles the categories are supposed to play. In logic the categories describe the most general simple utterances, which act as the building blocks of propositions, whereas in talking about reality these concepts are taken as

[27] For a fresh account of al-Fārābī's doctrine of the categories, see Diebler 2005.

referring to real beings, since they "are concepts of natures and entities that really exist."[28] The former characterization works because all significant utterances are thought to be meaningful, that is to say, to have their immediate referent in a mental notion; the latter works because the categories are thought to derive ultimately from sense-objects, and therefore from real existents, through a verifiable and natural psychological process. According to al-Fārābī, this resolves the ancient quarrel over whether the *Categories* forms an introduction to logic or to philosophy as a whole: it does both (*Commentary*, 202).

Among other things, this gives al-Fārābī the opportunity to explain away tidily the ontology of problematic notions, imaginary things, and manifest impossibilities. Such notions fall outside the categorical scheme altogether and therefore need not be thought of as referring to anything extra-mental—indeed, they do not enjoy even mental existence in any strong sense, given that one does not come by them through the customary psychological process of abstraction from particulars (*Commentary*, 203–4). Likewise outside the categorical scheme fall those notions which apply equally across the categories. These are what later came to be known as transcendentals: al-Fārābī's examples include "thing," "one," and "being" itself. Finally, the categories also do not apply to those entities which are not sense-objects at all and whose properties need therefore not be those of sense-objects (*Commentary*, 226). Al-Fārābī has in mind here the immaterial movers postulated in Aristotle's *Metaphysics* Lambda, which, although real entities, cannot be substances in the sense meant in the *Categories:*

> These matters are beyond the scope of natural theory. For natural theory includes only what is included in the categories; and it has become evident that there are here other instances of being not encompassed by the categories: that is the Active Intellect and the thing that supplies the heavenly bodies with perpetual circular motion. Therefore he had to inquire into the beings in a way more inclusive than natural theory.[29]

This more inclusive investigation is that of metaphysics.[30] In light of the so-called *Book of Particles*, metaphysics deals more in transcategorial notions such as "being" than in the study of immaterial reality as such: thus, al-Fārābī's work can once more be seen as paving the way for Avicenna's conception of the metaphysics. However, as we shall see,

[28] Al-Fārābī, *Commentary on the Categories*, tr. Zonta 2006, 199 (modified according to the literal reading of *ṭeva'*: see n. 85).
[29] Al-Fārābī, *Philosophy of Aristotle*, 130, tr. M. Mahdi.
[30] See Druart 2007.

Avicenna's metaphysics is supposed to include a study of the categories as such, something for which we find no precedent in al-Fārābī.[31]

c. In the case of the categories, as in the case of the metaphysics, Avicenna can be seen as extending al-Fārābī's project. Here, however, Avicenna's response is partly a corrective one. Instead of accepting the traditional placement of the categories at the head of the teaching of logic, Avicenna contends that their treatment belongs more properly to metaphysics. This has implications for the way he deals with the categories himself, but also for the way in which logic is supposed to relate to metaphysics more in general.

The basis for Avicenna's dissatisfaction with the traditional teaching regarding the categories lies in his conception of logic. Logic for Avicenna has to do with the secondary intelligibles (*al-maʿqūlāt al-thāniyya*) insofar as these are used to arrive from the known to the unknown, that is, insofar as these are used to aid in inferential reasoning: the first half of the equation takes its cues from al-Fārābī (see, e.g., the *Book of Particles*, §7 Mahdi), but the second emphasis is Avicenna's own.[32] This already means that the categories qua categories will have no place in logic. The simple terms (the five predicables) listed in Porphyry's *Introduction* and the theory of propositions given in the treatise *On Interpretation* suffice to set the budding scholar on her way to formulating syllogisms, which in turn provides the path toward reconstructing a consistent picture of reality (*Categories*, 5.1–4). The ten categories are therefore surplus to requirements as far as the logician's tool kit is concerned.[33] To this we may add Avicenna's intellectualist attitude as compared to Aristotle's when it comes to the relation between thought and reality. An analysis of language qua language is not what the logician is interested in, and so any remarks that could be made about the everyday way we happen to categorize our experience would be wholly beside the point from any scientific standpoint; at most it would provide incidental evidence for the essentially unrelated discipline of cognitive psychology.[34]

Avicenna's official take on the matter is that the proper treatment of the categories belongs to first philosophy, that is, to metaphysics. This placement makes a certain

[31] According to a report we owe to Albert the Great, al-Fārābī would have inherited an even stronger ontological reading of the categories from Porphyry, stating that not only does "man" entail "animal" but "animal" also includes "man" as its principle and creative cause. If this is right, then a fully implemented Chain of Being would follow immediately from the institution of the ten categories. However, as Michael Chase has pointed out, Porphyry is much more cautious than this at least in his *Eisagôgê*, where he says only that the ten *summa genera* are "as it were principles" (*hoion arkhai*) to more fully specified things; similarly we should caution that al-Fārābī places his categorical teaching still squarely in its traditional place in the domain of logic. See Chase 2007.

[32] On the topic see Sabra 1980; on first and second intentions in Arabic logic, see Gyekye 1971.

[33] See Gutas 1988, 265–67.

[34] *Categories*, 5.9–10. In his introduction to the "Logic" of the *Healing* (22.14–17) Avicenna goes so far as to say that if telepathy were available, words would be altogether unnecessary for learning or teaching logic.

amount of sense from a systematic point of view: but it has to be said that Avicenna does not make much of it. In the *Healing*, the treatise on the *Categories* contains by far the most extensive treatment of the subject, notwithstanding Avicenna's own protestations that it is misplaced there. Perhaps this is, as Avicenna indicates, only because he chooses to follow custom (*ʿāda*) and the authority (*taqlīd*) of the foregone Peripatetic tradition in this work (*Categories*, 6.9–11, 8.10), but why then do the categories receive even more cursory treatment in his other, later works? Within the "Metaphysics" of the *Healing* Avicenna does refer to the standard list of nine accidents as so many categories (*Metaphysics* III.1, 71.5 Marmura). But he sees fit to discuss only quantity and quality in any detail, citing as reason that it is only in relation to these that serious questions had been raised. Relation is discussed in brief as well, ostensibly because some had doubted its mind-independent reality. While these are undoubtedly the core categories—there had been attempts since antiquity to reduce the remaining six to some combination of these three plus substance—one would hope to find somewhere in Avicenna's metaphysical works either a proper, ontologically oriented treatment of all ten categories or an explanation as to why certain ones are singled out for inspection while others are disregarded. Alas, such an exposition is nowhere forthcoming.

Perhaps an explanation for this omission can be found in the way Avicenna's system is set up. Since the second intentions that are used to classify the intelligibles are supposed to aid in disclosing the necessary structure of reality—logic being the primary tool in the acquisition of scientific knowledge—it is hard to see how fundamental ontology, either, would need an explication of all the ten categories or a discussion of their completeness or exhaustiveness. Moreover, there are good reasons for why such an explanation would be hard to come by. Avicenna subscribes to the traditional belief that there is no science of the categories (*Categories*, 6.12), by which he means that their character cannot be demonstrated on the basis of more fundamental principles, given how they are of a maximally general character themselves. Avicenna is additionally well aware of Aristotle's warning in *Metaphysics* Beta that being cannot be made into a genus (see *Metaphysics* I.5, 27.13 Marmura; also IV.1, 124.6), which means that when it is said that being is distributed among the categories as if among the species (*ka-l-anwāʿ*: *Metaphysics* I.2, 10.4–11 Marmura), the emphasis is squarely on the "as if."[35] In the late Persian work *Dānish Nāma-i* Avicenna clearly states that being (*hasti*) has no

[35] One minor mystery concerns the way in which Avicenna equates the categories with the "species" (*anwāʿ*) of being. Granted, *Metaphysics* Gamma talks of a study of being along with all its "forms," and as the Greek term here, *eidê*, could be translated as "species," it is at least possible that this was Avicenna's textual justification for placing the study of the categories under the rubric of first philosophy. The extant Arabic translation has the plural "forms" instead of "species" (*ṣuwar*), however (see Averroës, *Commentary*, 1:302.5–7 Bouyges), and so it is not entirely clear where Avicenna would have got his alternative translation.

definition, no genus, and no differentia (ch. 3), but also that the categories cannot explain their own being; else when one says "quality exists" one would be saying "quality quality," and so on (ch. 11).

AFTER AVICENNA

The upshot of Avicenna's innovative treatment of metaphysics is that the categories become in a way displaced in subsequent Arabic discussions. They no longer are thought to belong to logic—a revision to the philosophical curriculum that takes a while to stick but eventually does, to the point where the famous historian Ibn Khaldūn (1332–1406) can report that later logicians altogether excised from their handbooks a section on the categories (*The Prologue*, 3:112 Quatremère).

But neither do the categories really take root in metaphysics. In fact, the opposite happens: one may trace a steady decline in the fortunes of categorical teaching, for example, in the line of metaphysics that extends from Fakhr al-Dīn al-Rāzī (d. 1210) to his student Athīr al-Dīn al-Abharī and again to the latter's student al-Kātibī al-Qazwīnī.[36] In al-Rāzī's influential work on metaphysics, the *Mulakhkhaṣ fī al-ḥikma*, the second book is devoted to contingent being: here, quantity and quality still receive separate chapters, while the remaining categories are all gathered under a single heading (II.3). In al-Abharī's *Hidāya al-ḥikma* and al-Kātibī's *Ḥikma al-ʿayn*, by contrast, which are plainly modeled on al-Rāzī's pioneering treatment, the categories dissolve into the background altogether, with al-Kātibī's exposition bearing no trace of the categories being a subject for metaphysics any longer. The reason, plainly, is that al-Rāzī's students correctly saw that an exposition of "common items" (*al-umur al-ʿāmma*) within an Avicennian universal science (*al-ʿilm al-kullī*) really does not require an exposition of the categories. Rather, Avicennian metaphysics focuses on such seminal issues as essence and existence, contingency and necessity, causes and causation, and so forth. These—along with the logical as well as metaphysical notions of genus, species, and differentia—are properties common to all beings alike, and therefore form the hard core of metaphysical investigation.

It is not possible to summarize adequately these rich debates within the parameters in this article. Indeed, it is doubtful whether we are yet equipped to do justice to the full historical and philosophical complexities of the post-Avicennian period. What can minimally be said is that the onus of philosophical discussions shifts to questions such as the relation of essence to existence, the possibility of describing or defining the

[36] I owe the following information to Heidrun Eichner: some preliminary findings of her investigations into post-Avicennian metaphysics are made available in Eichner 2007.

transcategorical being of the Necessary Existent, the nature and ontological status of mental entities and possibilia, and the gradation of being (*tashkīk al-wujūd*) according to either analogy or hierarchy and the implications this has for the rational analysis of the world. Many of these debates touch upon issues relating to logic and metaphysics: I will limit myself to a few remarks regarding the continued fortunes of Aristotle's *Categories*.

a. First, it must be admitted that despite Avicenna's best efforts, the categories were slow to be excised from the philosophical curriculum and even from logic. Thus, Naṣīr al-Dīn al-Ṭūsī (d. 1274), who plainly stands in the Avicennian tradition and who defends Avicenna on numerous contested metaphysical issues, nonetheless continues to uphold the custom of presenting the categories in the context of logic in his *Principles of Inference*.[37] He defends the practice by stating that a proper analysis of the premises used in deductions cannot be successfully executed without an understanding of the distinctions made in the *Categories* (*Asās al-iqtibās*, 34–35). This is a puzzling and not altogether satisfying avenue of thought, given that Ibn Sīnā had earlier clarified that logic deals not with first but second intentions, something that Ṭūsī himself recognizes (ibid., 399). Moreover, al-Ṭūsī admits that there are more common (*ʿāmm*) terms than the ten categories, such as existence, necessity, and possibility (ibid., 412; see here Morewedge 1975). The tension is left unresolved; the best solution I can offer is that al-Ṭūsī considers a full analysis of logical premises to include a semantics for them, and that for him this maps onto an old-fashioned Aristotelian universe with beings in the ten categories.[38]

b. There were, furthermore, ways of preserving Aristotle's ten categories without making the Aristotelian assumption that our everyday modes of speaking mirror some fundamental divisions in reality. Ibn al-ʿArabī (1165–1240), for instance, can still accommodate all ten of Aristotle's categories thanks to his theologically motivated doctrine of the "perfect human" (*al-insān al-kāmil*), a doctrine that, much more than pointing to the notion of man as a microcosm of the universe, serves to justify the notion that the universe has been formed in the image of humankind.[39]

[37] The same explanation features in al-Ḥillī's (1250–1325) explication of Ṭūsī's logic: see *Jawhar al-naḍīd*, 23–35.

[38] The Aristotelian categories are defended in al-Ṭūsī's *Divisions of Existents* (§§8–9), where al-Ṭūsī introduces the ontology of the *kalām* theologians as one of seemingly heedless profligacy. The theologians admit substance and twenty-one types of accident, of which some are loosely grouped (those related to the cognitive and deliberative capacities of humans), while others do not even benefit from this much attention. By contrast, the division of the philosophers of existents into necessary (God) and contingent (everything else) is economical and clear-cut. Contingent being can be divided further among the ten *summa genera*, an example is offered in poetic form: "A tall man, good and nobler than any other in town/With his wealth, he rests on his domain today" (§16). On the metaphysics of the *kalām*, see Frank 1979.

[39] See Gril 2005, 160–61.

Ibn al-ʿArabī's speculations presuppose a recognition of the same fact (to which Gillespie has drawn the attention of modern scholars), namely, that Aristotle's categories seem curiously anthropocentric: it is only the conclusions that Ibn al-ʿArabī draws that are markedly different. Ibn al-ʿArabī takes it that the whole universe is a vehicle for divine self-disclosure, which again occurs through human self-realization: if psychology and the study of outward reality jointly point in the direction of Aristotle's ten categories forming an exhaustive list of the ways in which things appears to us, then this is good reason to think that these are the items that have been placed in the world for our inspection. Aristotle's ten categories therefore suffice for logic, for natural philosophy, and for metaphysics alike, but only thanks to the adoption of the principle first put forward by Aristotle according to which nature does nothing in vain (coupled with the further, un-Aristotelian assumption that the only final purposes in the world are human purposes).[40]

c. In the so-called Illuminationist tradition of later Islamic philosophy the categories do undergo a serious devaluation, as the emphasis shifts squarely onto essence and existence as the two fundamental rubrics under which to analyze being. Shihāb al-Dīn al-Suhrawardī (1154–1191) lays down the party line when he says that all ten categories of the Peripatetics, insofar as they are considered as categories and predicables, are mere intellectual notions (*al-iʿtibārāt al-ʿaqliyya*), that is, mental existents with at best a secondary claim to reality (*Philosophy of Illumination* I.3, 52.10–11 Walbridge and Ziai). Furthermore, because logic has to do with knowledge that is acquired, not with innate knowledge, the categories do not merit their own book. As for the Peripatetics' list of categories as a guide to actual reality, this, too, is defective, since Aristotle has mixed up Archytas's scheme, which in truth would consist solely of substance, relation, quality, and motion (*Book of Intimations* I, in *Opera* 1:4–17). One can see how Avicenna opened up this line of revisionism, even if he never advanced in the direction of presenting criticisms of Aristotle's actual list of categories. Despite disagreeing fundamentally with al-Suhrawardī on the relative standing of essence versus existence, Ṣadr al-Dīn al-Shīrāzī or Mullā Ṣadrā (1571–1640) at the other end of the Illuminationist tradition goes even further in criticizing the categories. Since Mullā Ṣadrā contends that only existence is real, whereas essences are secondary and arise only as ways for the mind to come to grips with this ultimate reality, all the categories become mere mind-dependent entities. This applies even to substance, which dissolves under the existential analysis, indispensable though it may be for our reasoned grasp of reality.

> Substance, quality, and the rest of the categories [provide] divisions of quiddity; they are universal meanings such as genus, species, essential, and accidental.

[40] See the *Meccan Revelations*, 3:11.

> Existent realities, by contrast, are [instances of] determinate haecceitas and particular selves (*hūwiyyāt ʿayniyyāt wa dhawāt shakhsiyyāt*), which cannot be subsumed under either an essential or an accidental universal. (*Book of Sensations*, §60 Morewedge)

This accords nicely with Mullā Ṣadrā's positive evaluation of Ibn al-ʿArabī's project. If the different modes of actuality that the world assumes are in fact shaped in accordance with the self-realization of created creatures qua created—the operative concept here is divine generosity—then a maximal spread of these in the form of individuals is preferable to an Aristotelian system, whereby the realization of species *qua* species is paramount.

d. An Aristotelian analysis of the categories was largely retained in twelfth-century Andalusia. This was mainly due to the continued dominance of al-Fārābī in logical teaching. The most important example of Aristotelian categorical teaching lingering on in the context of metaphysics is Averroës's criticism of Avicenna on the question of essence and existence. Averroës famously claimed that Avicenna made an accident out of existence, something superadded (*zāʾida*) to the essence. Now, it is well known that this rests on a misunderstanding of Avicenna: for Avicenna, the quiddity as such is not to be considered in terms of existence at all, that is, neither as existing nor as not existing, but simply as itself—for example, as horseness (*Metaphysics* V.1; see Marmura 1992). What is rather less known is that in his critique of Avicenna, Averroës relies on an earlier criticism of al-Kindī made by al-Fārābī in the *Book of Particles*. Thanks to a pioneering study by Stephen Menn (2008) we are now much better equipped to appreciate al-Fārābī's importance to this debate, which certainly counts among the most central in terms of the contending legacies of Avicenna and Averroës in Western metaphysics. At the same time, Menn's study highlights the continued importance of Aristotle's *Categories* for Averroës.[41]

Fadlou Shehadi neatly summarizes Averroës's general complaint against Avicenna. In Averroës's estimation, Avicenna

> wanted to have his cake and eat it. He wanted *al-mawjūd* to refer to an accident in objective being. But, for Ibn Rushd, this cannot be done. If we are talking logic, *al-mawjūd* is accident, but if metaphysics, then it is the very self of the things that are. Existence as an *accident* in *objective* being would be a strange animal, perhaps like the goat-stag, a chimerial hybrid. (Shehadi 1982, 108)

[41] Menn's results as far as al-Fārābī is concerned are published in Menn 2008; Menn has also kindly passed on to me his preliminary survey of the materials in Averroës, which agrees with my own analysis of the discussion in the *Incoherence of the Incoherence*.

Why is this? Averroës takes from al-Fārābī the notion that being across the categories is predicated analogically, or *per prius et posterius*, whereas "being as truth" (*ʿalā ṣādiq*) can be said to be univocal solely on the grounds that it reflects a correspondence between a soul's judgment and *something* existing in the world, regardless of what that something is. This is to say that our language has a double structure of sorts. On one hand, our ordinary mode of speaking readily recognizes that the being of, for example, qualities is distinct from the being of substances, whereas on the other hand the single way in which "being as truth" (as something being the case) is handled shows that its relation to the mind's own operations is rather flat. The latter therefore necessarily ignores the subtle nature of the situation on the ground, as it were (*Compendium of the Metaphysics*, 35.9–37.10).

The reason this becomes such a sore point for Averroës is that Abū Ḥāmid al-Ghazālī (1056–1111) in his *Incoherence of the Philosophers* had cleverly suggested that, contrary to what Avicenna himself thought, the essence-existence distinction fatally jeopardizes the theologically sacrosanct doctrine of divine simplicity. While the details of Ghazālī's attack lie beyond the purview of this essay, we may make note of Averroës's response. Averroës believes that Ghazālī's charge is made possible only by Avicenna's mistaken belief that "existence is something additional to the essence, outside the soul—an accident inhering in it, as it were" (*Incoherence of the Incoherence* V, 302.14–15). According to Averroës, Avicenna commits this mistake because of his belief that "being as truth" (i.e., being as "something being the case") is the primary sense of being. This for Averroës is fundamentally wrong, the reason being that it confuses the primary realities of beings and their properties—the categorically divided real world—with the flattened-out imagery of mental representation:

> The noun 'existent' (*al-mawjūd*) is said according to two meanings: one [signifies] the true, the other that which stands opposed to privation, and this [latter] is that which divides into the ten categories and is as it were their genus. These—I mean the things outside the mind (*al-umūr llatī khārij al-dhihn*)—are prior to the second types of existents; they are said according to the prior and the posterior in accordance with the ten categories. It is in accordance with this that we say about the substance that it is an existent essentially, and about the accident that it is an existent through its existence in that which exists essentially. (*Incoherence of the Incoherence* V, 303.11–17 Bouyges)

For Averroës, actual being, which is divided in accordance with the ten categories, is prior to any judgments made about it, which makes primary intentions about beings and their properties equally prior in relation to judgments about something's being the case (i.e., "being as truth"). This does not deny that the latter judgment, that of something

being the case, can be primary in our order of discovery. Indeed, the latter may be needed as a preliminary step in scientific inquiry before we fix our sights on the essences of things.

> As for the existent insofar as the true is intended by it, all the categories participate in this equally. The existent by which the true is intended is an intention (*maʿnā*) in minds: namely, that the thing outside the soul conforms to what is in the soul. Such a knowledge precedes knowledge about a thing's quiddity: that is to say, an understanding of a thing's quiddity is not required in order to know that the thing *exists*. As to the quiddity which in our minds precedes the knowledge of the existent [in question], this in reality is not a quiddity, but instead only an account of the meaning of one name among many. Only once one knows that this intention also exists outside the soul is it known that it is a quiddity and a definition. In accordance with this notion it is said in the *Categories* that the universals of intelligible things only become existent through their particulars, and [that] their particulars [become] intelligible through their universals. (*Incoherence of the Incoherence* V, 303.17–304.9 Bouyges)

Aristotle never says any such thing, in the *Categories* or elsewhere, but the sentiment is consistent with a picture that can be formed on the basis of the *Categories* and the *Metaphysics*, on the ontological side, and the *Posterior Analytics* and *On the Soul*, on the epistemological and psychological one. Beings have quiddities, which constitute their being (i.e., their being what they are), and these can be grasped intellectually and expressed intelligibly through certain definitions. In a succinct expression of the ambitions of this brand of Greek rationalism, Averroës avers that both the metaphysician and the logician examine definitions and essences, albeit with different aims. The logician treats definitions as instruments in the formation of concepts, whereas the metaphysician takes the same definitions to disclose the true natures of actually existent things. The glue here is the assumed equivalency relation between the intelligible meaning of the definition and the quiddity of the thing.

However, we do not normally hit upon appropriate definitions right away, but instead must first start from the affirmation *that* something is (that it exists), and then proceed to investigate what it is that makes it existent (a search for causes, which in the case of real beings reduces in the end to a search for essential definitions). The first act of ascertaining that something is the case is the same for any and all instances of being, all across the categorical scheme; nonetheless, it does not equal an identification of some separable property of an otherwise free-floating essence. Rather, the essence is what remains to be discovered; and since "being" signifies directly according to one of the ten categories, this can mean anything from

the essence of horseness to the essence of whiteness, although the priority of substance means that this is primarily what metaphysical investigation aims at.[42] All this has the added consequence that neither being itself, its concomitants ("thing," "haecceitas," and "essence" in Averroës's list), nor the ten categories into which it divides lend themselves to scientific definition and true knowledge. Only universals and species can be defined, after all (Aristotle, *Met*. 1036a28–29), while both the *summa genera* above them and the particulars *qua* particulars remain indefinable (*Met*. 1039a27–29) and thus outside the reach of demonstrative science.

CONCLUSION

In this short essay I have tried to take the long view regarding the reception of Aristotle's categorical scheme along with his *Metaphysics*. What a comparison of the developments from late antiquity to Mulla Ṣadrā demonstrates, I think, is what a delicate balance Aristotle tries to strike in his works between different, and indeed opposing, philosophical concerns.

Consider the case of the three primary predicables: genus, species, and differentia. All three are standardly dubbed "essential" by Aristotelian commentators in the wake of Porphyry's *Eisagôgê* (as opposed to the non-essential predicables of accident and property), and for those invested in the philosophical fecundity of the main Peripatetic texts, all three play a vital role in circumscribing being. Yet the emphasis that one chooses to place among the three leads to vastly different metaphysical outlooks, for example in the late ancient philosophers and in Mulla Ṣadrā. For the first, what is paramount is that the human mind be able to grasp the necessary way in which the world is laid out, which leads to an emphasis on the genus as the "power" of being and its determinative factor. On this view, all of intelligible reality can be seen as unfolding from certain logical principles. By contrast, for a philosopher of the stripe of Mullā Ṣadrā what is important is that existence itself be recognized in its infinite variation: the form is the form of the individual, and the differentia the very existence of each individual existent (Rahman 1975, 49–54). This leads to a certain depreciation of logic as a tool for grasping the nature of reality. Both impulses—the conviction that the world must be intelligible, and that its being consists in the subsistence of individuals—can be seen as genuinely Aristotelian. What we find in the period of classical Arabic philosophy stretching from al-Fārābī to Avicenna to Averroës is an

[42] *Commentary on the Metaphysics* X, comm. 8, 3:1279–1282 Bouyges. For the ancient roots of this view consider, e.g., the following statements from Philoponus's *Physics* commentary, a work that was well known to Averroës: since being is not a genus, "there is no such thing as being without qualification (*haplôs*), but it is either substance or quantity or one of the others" (*In Phys*. 55.18–19), and because the categories of being do not share a common nature, they are predicated in an amphibolous manner (*In Phys*. 55.5ff.).

attempt to relocate the balance through a focus on the proximate species as the locus where the logical and the metaphysical meet. This intuition is authentically Aristotelian, too, even if the struggles of the Arabic philosophers serve to show just how difficult it is to reconcile all aspects of the Aristotelian project.

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3

THE METAPHYSICS OF THE CATEGORIES IN JOHN DUNS SCOTUS

Simo Knuuttila

Thirteenth-century authors often argued that Aristotle dealt with the categories from the point of view of logic in the *Categories* and from the ontological point of view in the *Metaphysics*. In the former work the categories were discussed as types of significative terms or concepts and in the latter as types of extra-mental things. In the second half of that century, the categories of terms were increasingly characterized as second intentions, the concepts of concepts, as distinct from first intentions, which were the concepts of things. As second intentions, the categories were the tools with which the intellect classified what was expressed by categorematic terms. These terms were taken to signify first intentions and through them the extra-mental things. While all authors paid attention to the differences between categories as concepts and categories as extra-mental things, there were various views about the nature of the concepts and their relation to things and consequently also about the relation between logic and metaphysics.[1] My aim in this paper is to analyze John Duns Scotus's view of the metaphysical structures of being and his interpretation of the traditional doctrine of the categories in this context.

1. CONCEPTS, REPRESENTATION, AND INTENTION

Among thirteenth-century Aristotelians, considerations about the categories of being were embedded in detailed theories of how things are and how they are known. Let us exemplify these approaches by taking a look at the main features of the metaphysics of being and knowledge in Thomas Aquinas. According to Aquinas, when the term "being" (*ens*) is applied to finite things, it is an analogous term that has as its proper

[1] For the main lines of thirteenth-century discussions including Scotus, see Pini 2002; Pini 2008, 145–84; Newton 2008.

meaning (*ratio propria*) the concept of substance. This is included in the concepts of all other things, of which "being" is secondarily said. These are classified by other Aristotelian categories that express the various kinds of modifications pertaining to substances. Thus a color as a being is a qualitative modification of a substance.[2] The general meaning (*ratio communis*) of "being" can be characterized as the disjunctive totality of analogous meanings. The meanings of analogous terms are clusters in which the primary meaning is in some way included in secondary meanings.[3]

In logic, the first category involves concepts pertaining to things that can be by themselves; the other categories involve concepts pertaining to things that inhere in a substance (accidents), "for an accident to be is to be in another thing."[4] In metaphysics, the notion of substance is an ontologically complex idea whose elements include essence, existence, and individuation. Particular substances are what they are as instantiations of substantial forms that determine the essential properties of the things in which they are actualized. Another metaphysical constituent of the things in the sublunar world is prime matter, which is pure potentiality and has existence as the substrate of the singular instantiations of forms. The forms, which in themselves are neither one nor many, are individuated by matter.[5]

Prime matter has no properties of its own and it is not intelligible. The essences that are individuated by the matter are intelligible in themselves. Though the essences are not actual as such in the lower spheres, as the constituents of composite beings they form the potentially intelligible level of reality.[6] This was the Aristotelian version of the realism of intelligibility, which Plato put forward in the doctrine of ideas as separately existing intelligible units. The objective intelligibility of reality is actualized in the acts of intellects. The intellection of a substance, say a horse, is preceded by the perceptions of a horse and the formation of a sensory representation of a horse in the imagination. From this phantasm the intellect abstracts the intelligible form, and when this is actual in the intellect, it makes possible the act of understanding the essence of horse. This act is not about the abstracted form in the intellect but about the form-based intelligibility of things themselves.[7]

One of the presumptions that influenced Aristotle's theory of cognition was his view of the active and passive powers as the basic elements of all changes in nature. A passive

[2] *Summa theologiae* I.13, a.10; *De potentia* 7, a.7; *In duodecim libros Metaphysicorum Aristotelis expositio* IV.1, 539; XI.3, 2197; *In Peri hermeneias* I.5, 70–73. There were earlier thirteenth-century examples of this characterization of analogous terms, which roughly corresponded to what Aristotle said about *pros hen* equivocity; for example, see De Rijk 1968, 475.

[3] *In Peri hermeneias* I.8, 93.

[4] *Summa theologiae* I.28, a.2; *De potentia* 8, a.2.

[5] *Summa theologiae* I.3, a 2–4, *In Met*. VII.11, 1521–2, 1535, *De ente et essentia*, 2.

[6] *Sentencia libri De anima*, III.4, 43–63 (219).

[7] *Summa theologiae* I.85, a.1–2.

power is activated by an active power when these are in contact and there is no external hindrance.[8] All human cognitive capacities are powers that need an activator and, this must be in contact with the corresponding faculty. In the case of seeing, the non-perceptible changes in the medium and the organ of sight caused by the visible form without matter are needed to bring the passive and active constituents of vision together. The activator determines the act, and so the visible form of an external object makes the power of seeing see it.[9] Similarly, the intellectual acts about natural kinds are activated by the presence of intelligible form in the intellect.[10]

When Thomas Aquinas proposes this theory of seeing, he says that the visible form without matter has a spiritual being and that the presence of this form in the passive sensory power of seeing activates it and makes one see the external visible object. Other senses are dealt with in an analogous way.[11] At the level of understanding, the active intellect illuminates phantasms and abstracts the intelligible form from them. This abstracted form actualizes the passive power of understanding and makes one grasp the intelligible nature of things.[12] Following Aristotle, Aquinas argues that the intellect does not understand things without turning to sensory phantasms.[13]

In dealing with the metaphysical psychology of intellectual cognition, Scotus makes use of the theoretical ideas of thirteenth-century Aristotelians. He was influenced by the same realist assumptions that guided Aquinas's thought, but there were also differences.[14] While Scotus agreed with the general lines of the explanation of how the activators of the cognitive powers are brought into contact with them, he added an active element to the theory of perception.[15] He also extended the scope of interest from the metaphysical mechanism of cognition to an analysis of the intentionality of understanding.

[8] The properties of this explanatory model are most extensively analyzed in *Physics* III.1–3 and in *Metaphysics* IX.1–5. See Knuuttila 1993, 19–31.

[9] *De anima* II.5, 417a2–9, 22–b19; II.7, 419a9–31; II.12, 424a17–24; III.2, 426a8–12, 15–23. For the Aristotelian theory of perception, see Knuuttila 2008a, 1–22.

[10] *De an*. III.5, 430a14–20; III.8, 431b28–432a3. See also Charles 2000, 130–35.

[11] *Summa theologiae* I.78, a.3; *Sentencia libri De anima* II.11 (110–13). For spiritual change in Aquinas, see also Tellkamp 1999, 56–129.

[12] *Summa theologiae* I.79, a.3; I.84, a.6; I.85, a.1.

[13] *Summa theologiae* I.84, a.7.

[14] For intelligible species, see *Ordinatio* I.3.3, q. 1, n. 370, q. 3, nn. 486–87, 544, 563 (*Opera omnia*, ed. Vat. III, 225, 289, 325, 335).

[15] According to Scotus, the passive reception of the form in the organ is necessary but not sufficient for activating the non-material sensory power that takes place by the activity of the soul; *Quaestiones super secundum et tertium De anima*, 12 (106). This view was associated with Averroës's remark about agent sense by John of Jandun and others. Some version of the active sense was also accepted by John Buridan and many other late medieval and early modern thinkers. See the texts in Pattin 1988.

> For the cognitive potency not only has to receive the species of the object, but also to tend to the object through its act. And this second thing is more essential to the potency, because the first is required because of some imperfection of the potency. And the object is more principally an object because the potency tends toward it rather that because it impresses a species.[16]

The intentionality of cognitive acts was traditionally stressed by Augustinian authors, and it was dealt with by some of Scotus's predecessors, such as Robert Kilwardby and Peter John Olivi.[17] Let us take a look at some aspects of Scotus's attempt to build the intentional aspect of representation into the causal conformation theory.

According to Aquinas, the intelligible species in the intellect is formally the same as the form that in the extra-mental world makes particular things instantiations of this form.[18] When the species actualizes the passive intellect, one first forms a pre-theoretical concept, which is the basic unit of understanding. A more developed concept is called the understood intention or the internal word.[19] The concept is not the thing that is primarily understood, although it can be understood through a special reflective act. It is also characterized as a similitude, and consequently it is formally the same as the form in things.[20]

[16] *Quaestiones super libros Metaphysicorum Aristotelis*, VII.14n29 (290), translated in *Questions on the Metaphysics of Aristotle by John Duns Scotus*, 2:250.

For Scotus's view and its background, see also Perler 2002 and Pasnau 2003.

[17] Robert Kilwardby tried to combine the Aristotelian passive view and Augustine's active view of perception: "The image in the organ or the organ informed by the image is the cause without which the image does not come to exist in the sensory spirit. But it is not the efficient cause, for the action of the sensible thing or its image does not rise beyond the limits of corporeal nature, but once it has reached the innermost part of the sense organ it stays there. Then the sensory spirit, which presides over the sense organ and is directed towards its affects, while it flows more attentively into the organ which has been thus affected, penetrates it through and through, co-mingles with the spiritual image, and makes itself similar to it" (*De spiritu fantastico*, n. 103; the translation is taken, with changes, from *On Time and Imagination*). Peter John Olivi writes: "A cognitive act and aspect is directed to the object and has this absorbed into itself in an intentional way. Therefore a cognitive act is called the apprehension of an object and the apprehensive extension to an object. In this extension and absorption, the act is intimately conformed and configurated to the object. The object presents itself or shows itself as present to the cognitive aspect, and there is a representation of it by the act which is configurated to it" (*Quaestiones in secundum librum Sententiarum*, 72, 3:35–36). See also Silva and Toivanen 2010.

[18] The formal identity is often expressed in terms of likeness (similitude); see, e.g., *Summa theologiae* I.85, a.2, ad 1. In *Summa contra Gentiles*, III.49, 2266, Thomas Aquinas says that the similitude through which a substance is understood is of the same species or rather its species. See also *Sentencia Libri de anima* III.7, 37–48 (235–36).

[19] *De potentia* 8, a.1; *Summa contra Gentiles* IV.11, 3473.

[20] *Summa contra Gentiles* I.53, 444, IV.11, 3466.

Scotus agrees with Aquinas that the abstracted intelligible species that activates the passive intellect is formally the same as the form or species in the members of a natural kind. While Aquinas assumed that the abstracted species that activates an intellectual act as well as the content of the act is formally the same as the metaphysical form, Scotus found this problematic because he regarded the identity thesis as an ontological postulate about the sameness between non-intentional entities. Can it be extended to intentional contents that do not have the same ontological properties as the forms? It seems that Aquinas did not pay attention to this question. Scotus argues that receiving the activating species is the first change that the intellectual power undergoes, the second change being the turn into an intentional awareness of the object. While the first change is analogous to any physical change of receiving something, the second change is different because it involves an intentional mode in which the species is present to the subject.

> The intellect is not merely really affected by the real object, in so far as this real species is imprinted there; it is also affected by the object through an intentional change, in so far as it shines in the species, and this second change is the reception of intellection, being produced by the intelligible as intelligible which is shining in the intelligible species, and being affected in this way is understanding.[21]

Scotus says that in understanding the intellect produces an intentional object, though this is not a new separate entity. This internal object, the intelligible species as understood, has an intentional being or objective being; it could be characterized as the mental content of intellection.[22] Many scholars have seen here an innovative attempt to distinguish between the traditional question of the metaphysical conformation of the species in mind and reality and the question of the intentional mode in which the content of understanding is displayed to the intellect.[23] By bringing the contribution of the subject of knowledge into the discussion of metaphysical psychology, Scotus raised questions that were not typical in the cognitive theory that concentrated on the formal identity of species—this was more radically qualified by the denial of the species in Ockham's nominalism.[24] Scotus and Ockham did not question the possibility of

[21] "Intellectus non tantum patitur realiter ab obiecto reali, imprimente talem speciem realem, sed etiam ab illo obiecto ut relucet in specie patitur passione intentionali: et illa secunda passio est receptio intellectionis—quae est ab intelligibili in quantum intelligibile, relucens in specie intelligibili—et illud pati est intelligere." *Ordinatio* I.3.3, q. 1, n. 386 (ed. Vat. III, 235).
[22] *Ordinatio* I.27, q. 1–3, n. 54 (ed. Vat. VI, 86), *Ordinatio* IV.1, q. 2, n. 3 (ed. Wadding VIII, 56).
[23] See Perler 2002, 217–30; Pasnau 2003, 287–90; King 2004, 65–88; and Honnefelder 2005, 39–40.
[24] For Ockham's criticism of the species theory, see Perler 2002, 333–42. See also Knuuttila 2009, 333–45.

objective knowledge, but their new ideas could be viewed as creating problems with respect to skepticism.[25]

2. METAPHYSICS AS A SCIENCE

According to Scotus, metaphysics is the science of being qua being. This formulation is also found in Aristotle, who applied it to first philosophy in *Metaphysics* IV.1–2. Being was not a univocal notion to Aristotle; it was divided into various categories. The discipline later called metaphysics dealt particularly with the category of substance and the order of substances, including the preeminent first being. In Scotus, the object of metaphysics is being qua being, insofar as it is known to us, but, as distinct from Aristotelians, he argued that being does not primarily present itself as divided into categories or species. There is a more primary level of cognition in which being qua being is understood as a univocal notion that transcends categorical differences and is applied to God and creatures. This unified notion of being underlies metaphysics as a discipline. Scotus was first to call it transcendental science (*scientia transcendens*).[26]

The univocal notion of being has two basic uses. It applies quidditatively (*in quid*) to all entity-like things and denominatively (*in quale*) to modifications of quidditative beings:

> For every *per se* intelligible either includes the notion of being essentially or is contained virtually or essentially in something that does include the notion of being essentially. For every genus, species, and individual, and every essential part of a genus, and the uncreated being as well, include being quidditatively, but all ultimate differences are included in these essentially, and all attributes of being are included in being and its inferiors virtually. Therefore those of which being is not a univocal predicate *in quid* are included in those in which being is univocal in this way.[27]

Being (*ens*) is the first of the transcendental concepts, which are not contained in any genus. Other transcendentals studied in the metaphysics are (1) the attributes coextensive with being as such, which were called transcendentals in the thirteenth century and of which Scotus deals with "one," "true," and "good," (2) the disjunctive attributes, that is, the primary differences of being, which in disjunction are coextensive with

[25] For medieval discussions of skepticism, see Perler 2006.

[26] See *In Metaph*. I, prol., n. 17–18 (8–9) and Honnefelder 2003. For Scotus's metaphysics in general, see Honnefelder 1990.

[27] *Ordinatio* I.3.1, q. 3, n. 137 (ed. Vat. III, 85), translated in Frank and Wolter 1995, 120; I have added the first "essentially."

being (such as "infinite or finite," "necessary or contingent," "actual or potential"), and (3) the pure perfections (*perfectiones simpliciter*), which are the attributes mostly predicable of God and hence transcend the finite categories.[28]

Even though being applies to every positive item, Scotus agreed with Aristotle in denying that being could be regarded as the highest genus. Aristotle denied it because it would be a genus whose specific differences would also be beings, which does not make sense. Scotus states that a genus distinguishes something from something else. Being includes everything, and what is not a being is nothing. The transcendental universality of the concept of being makes it different from the differentiating concepts.[29]

A special feature of Scotus's conception of metaphysics as a transcendental science is his conception of being (*ens*) as "that to which it is not repugnant to exist." Beings in this sense are all actual things as well as all non-actual possible things that can be imagined as actual without a contradiction. This unusually broad notion separates the domain of logical possibility from the absolute nothingness of impossible things, the concepts of which are contradictory.[30]

Scotus was first to use the term *possibile logicum*, which applies to anything that can be coherently thought about. In explaining the status of possibilities, Scotus remarks that when God, as an omniscient being, knows all possibilities, he does not know them by turning first to his essence, as Augustine and his medieval followers assumed. Possibilities are what they are even if there were no God. Scotus states that if it is assumed that neither God nor the world exists and that there would then be somebody to form the proposition "The world will be," this would be possibly true; similarly, "The world is possible" would be true.[31] The notion of logical possibility is conceptually prior to that of metaphysical possibility (*potentia metaphysica*), which is associated with active and passive potencies, whether divine or created. Possibilities as such have no kind of existence of their own and no power of being, but they are objective in the sense that they form the precondition for everything that is or can be.[32] A great deal of Scotus's discussion of metaphysical themes concentrates on the modal explication of being and the disjunctive transcendental notions of necessity and contingency. Scotus calls metaphysics a real theoretical science, which means that it deals with the order of actual

[28] *Ordinatio* I.8.1, q. 3, n. 113–15 (ed. Vat. IV, 205–7). See also Wolter 1946.

[29] *In Metaph*. IV.1, n. 56 (309–10); see also Pini 2005, 101–3.

[30] *Ordinatio* I.36, nn. 60–1 (*Opera omnia*, ed. Vat. VI, 296); *Quodlibet* q. 3, n. 2 (ed. Wadding XII, 67); Honnefelder 1990, 72–74.

[31] *Ordinatio* I.7, q. 1, n. 27 (ed. Vat. IV, 118–19); *Lectura* I.7, n. 32 (ed. Vat. XVI, 484); *Lectura* I.39, q. 1–5, n. 49 (ed. Vat. XVII, 494; *In Metaph*. IX.1–2, n. 18 (514); Knuuttila 1996, 135–36.

[32] Knuuttila 1996, 137–41; Honnefelder 1990, 45–72.

things and real potencies.[33] However, the wider modal scope is essential for understanding the meaning of the concept of being.[34]

3. THE SEMANTICS OF THE TRANSCENDENTALS

Scotus takes it as obvious that there are contingent states of affairs that in his view could have not been at the very moment of time at which they are. This idea of simultaneous alternatives differed from the traditional view of the necessity of the present and played an important role in Scotus's proofs for the existence of a necessary first being that acts as the free first cause of the contingent world. Augustine had already argued that the eternal and immutable creative act of divine will is free only if it is a choice between alternatives and could be other than it is.[35] This conception is developed in much more detail by Scotus. All possibilities receive an intelligible or objective being as objects of divine omniscience. Divine will reacts with liking (*complacentia*) to the thoughts of what would be good and with an efficacious act to the much more limited group of those combinations of possibilities that will be true.[36] The possibilities that will be realized are included in God's providential plan. Though possibilities as such are not dependent on God's will or intellect, the actualization of the finite world is contingent, depending ultimately on the free choice of the first cause.[37] The states of affairs of the actualized world consist of compossibilities that form a subset of alternative possibilities with respect to the same time. All alternatives are logical possibilities, though not compossible. Impossibilities are incompossibilities between possible elements, such as Socrates's sitting at a certain time and Socrates's not sitting at that same time.[38]

In addition to the distinction between necessary and contingent being, Scotus was interested in the distinction between infinite and finite being. He was one of the authors who developed the new ideas of the properties of actual infinity and its difference from Aristotelian potential infinity. Scotus was particularly interested in God's intensive infinity. The univocal notion of being applies to the necessarily existent

[33] *In Metaph*. VI.1, nn. 43–45 (18).

[34] *Quodlibet*, q. 3, nn. 2–3 (ed. Wadding, XII:67–8); King 2003, 17.

[35] For Augustine's modal ideas, see Knuuttila 2001.

[36] *The Examined Report of the Paris Lecture: Reportatio I-A*, I, d. 46 nn. 12, 31 (560, 562–63).

[37] While actual history does not include everything that God could have willed, it also includes evil things, such as sinful acts, which God does not directly will. For Scotus's attempts to explain how there are contingent propositions known by God that he does not will, see Frost 2010.

[38] For Scotus's modal theory, see Honnefelder 1990, 3–108; Knuuttila 1993, 139–49; Knuuttila 1996; Normore 2003. Many historians have paid attention to some philosophical similarities between the fourteenth-century modal theories influenced by Scotus's ideas and the possible worlds semantics of the last century. See Knuuttila, forthcoming.

infinite being and to contingent finite beings. These orders are distinguished by a modal distinction that points to the difference in the intensity of perfection. This is one of the distinctions Scotus defined and applied in his theories of sameness and difference.[39]

Two items are really distinct from each other if at least one can exist without the other, and two items are really the same if they are not really distinct. Items that are really the same can be formally distinct. Formal distinction was not introduced by Scotus, but it became one of the hallmarks of Scotist metaphysics. The idea of the formal distinction is that the inseparability criterion does not entail the sameness of the real definitions of things.[40] Formal distinction is not dependent on mind. A further mind-independent distinction that is less than formal is the modal distinction, which is the distinction between intensities of the same form. Distinctions of reasons are not based on any of these; they are mind-made.[41]

The difference between real and formal sameness/difference was relevant in the discussion of the metaphysics of the categories, but it was particularly developed in the conceptual analysis of the doctrine of the Trinity. Since Peter Abelard, many authors had drawn a distinction between essential sameness, which was analyzed as "The same that is A is B," and personal sameness, which is analyzed as "A is the same as B." This could be characterized as a distinction between extensional and intensional sameness. Scotus's distinction between essential identity and formal identity was not quite the same as Abelard's distinction between essential and personal sameness. Abelard thought that essential sameness pertains to the sameness of the subject of which the terms are expressed, this sameness being the kernel of his identity theory of predication in general and the basis of the correct interpretation of all true Trinitarian propositions. Scotus also employs the identity view of predication, but by essential sameness of two things he means that they have a common third that makes each of them the same as the other. In the Trinity, the essence is a communicable individual with three incommunicable supposita, the divine persons, which are numerically same as the essence but not the same as each other, being in fact really distinct from each other. Divine persons are essentially the same as the infinite individual essence, but there is a formal non-identity between a person and the essence because otherwise the persons could not be three. Scotus thought that because of the infinity of the divine essence it can exemplify itself in plural supposita without a real distinction. Created common natures of things lack this power because they are not infinite.[42]

[39] See Honnefelder 1990, 108–99.
[40] For formal distinction, see King 2003, 22–25.
[41] King 2003, 25–26.
[42] See Knuuttila 2010. See also Cross 2003.

4. THE CATEGORIES OF FINITE BEING

In dealing with Aristotle's theory of the categories as a metaphysical classification, Scotus took it for granted that things in the extra-mental world are divided into ten categories.[43] He thought that when things are treated as categorical items, they are simple in the sense that they are not composed of two elements, as many authors before Scotus assumed. According to Thomas Aquinas, categorical things were associated with a proper nature (*propria ratio*) or essence and the mode of existence (*esse*) that normally belonged to them. Henry of Ghent explained that while the categories of substance, quality, and quantity have an essential nature and a typical mode of being of their own, other categories do not have an essence of their own—they are modifications attached to things in the first three absolute categories.[44]

One of the reasons for the theory of the composite nature of categories was that it explained the difference between being by itself and being in something else, and it divided the inherent modes of being into types, each one proper to an accidental category. Scotus abandoned this distinction, regarding all categorical items as simple realities. He believed that postulating the mode of existence as an element of categorical beings was based on confusion between combining things in predication and the ways they exist in the world.[45] Scotus maintained that inherence is not a componential part of anything. It is itself something that belongs to the category of action or passion and enables the accidents to be related to substances.[46] In Scotus's view, all categorical items are really distinct from each other, and inherence is an entity that is required to account for the union between a substance and its accidents. He argued that this does not imply an infinite regress, since the inherence by which something is united with a substance is not really distinct from the inherence of this inherence.[47]

In Scotus's realism, all categorical items, whether absolute or relative, are real beings in the sense that they are particulars with extra-mental existence.[48] While the subject of metaphysics is being in the broad sense, which includes finite and infinite being, the theory of categories pertains only to finite things.[49] The metaphysical concepts of

[43] *In Metaph*. V.5–6, nn. 73–75 (464), *Quaestiones super Praedicamenta Aristotelis*, 11, n. 26 (350–51).

[44] Pini 2005, 69–73; Pini 2002, 144–47.

[45] See Pini 2002, 147–50. In his commentary on Aristotle's *Metaphysics* (V.9.890–892), Thomas Aquinas tried to derive the ten Aristotelian categories from various modes of predication, arguing that the diverse categorical modes of existence are expressed by analogous uses of "is" of predication. See also Wippel 1987.

[46] *Ordinatio* IV.12, q. 1, n. 6 (ed. Wadding VIII, 711).

[47] Pini 2005, 90–96.

[48] *Quodlibet* q. 3, n. 3 (ed. Wadding XII, 67–68).

[49] *Ordinatio* I.8.1, q. 3, n. 113 (ed. Vat. IV, 205–6).

substance, quality, quantity, and so on refer to different types of being that are not mind-dependent. When the categories are treated as the concepts of the intellect in logic, they are regarded as the most common genera of the created world, the most universal concepts by which the types of being are understood.[50] These genera themselves do not occur in the world, though the common natures that exist as instantiated in categorical beings are real.

There is no real difference between essence and existence in actual beings. It has been suggested that essence as the possibility of being is modally different from its actualization.[51] This is in agreement with the view that both are referred to by one univocal notion of being.[52] When Scotus says that the categories are applied to things that are or can be actual, he seems to mean actuality in the created world. This is understandable, since the ten Aristotelian categories as irreducible genera are known through an acquaintance with existing things. Scotus argues that earlier attempts to demonstrate the number of the categories are mistaken and that no such demonstration is available.[53] He apparently regarded the categorical structure of the actual world as a contingent fact. The created world could, absolutely speaking, be any compossible combination of possibilities.[54]

The category of substance includes self-sufficient individual beings. These are absolute beings as distinct from non-absolute beings, which cannot exist without relation to something else. Things in the categories of quality and quantity are also absolute in the sense that they are not necessarily dependent on other things.[55] Quality and quantity are always combined with substance in the natural order, but in the Christian doctrine of transubstantiation it is assumed that they can be actual without a substance in the elevated bread and wine.[56] Scotus suggests that homeomerous divisibility is the single feature that unifies quantity.[57] He did not put forward any analogous account of unity with respect to Aristotle's classification of various kinds of qualities. Non-absolute categories are relational.[58] Relations are intrinsically relational—they obtain when

[50] Pini 2002, 142–44.

[51] Honnefelder 1990, 140–58.

[52] *Ordinatio* I.36, nn. 48–50 (ed. Vat. VI, 290–91).

[53] See *In Metaph*. V.5–6, nn. 73–80 (464–66) and Pini 2003, 23–35.

[54] See, e.g., *Ordinatio* I.35, n. 32 (ed. Vat. VI, 258); *Ordinatio* I.36, nn. 60–61 (ed. Vat. VI, 296); *Ordinatio* I.43, n. 16 (ed. Vat. VI, 359–60). Peter John Olivi argued that the categories are merely modes of thought and not real aspects of reality. (See Pini 2005, 74–76.) Being aware of this criticism, Scotus regarded the categories as real classes of finite beings, though he also thought that the system of ten categories is metaphysically contingent.

[55] *Quodlibet* 3, nn. 2–3 (ed. Wadding XII, 67–8); *In Metaph*. VII.19, n. 73 (379); *Ordinatio* IV.12, q.1, nn. 9–10 (ed. Wadding VIII, 717–18).

[56] See, e.g., Bakker 1999.

[57] *In Praed*. 16–17, nn. 13–16; *In Metaph*. V.9, nn. 17–32 (532–35).

[58] *Quodlibet* 3, n. 3 (ed. Wadding XII, 68).

their terms (toward which they are directed) and foundations (due to which they inhere in a subject) are present.[59] Other non-absolute categories need an external cause to make them existent.[60]

In his *Categories* Aristotle distinguishes between first substances and second substances, where the latter are the forms of natural species and the former the singular beings in the species. One medieval continuation of this theme was Avicenna's theory of the universal terms pertaining to the nature of things. Avicenna distinguished the nature as such from the nature found in particulars and from nature as it is conceived in the intellect as a universal that is predicable of many. Nature in itself is neither one nor many. Horseness is only horseness and exists only in the mind as a universal and in extra-mental particulars.[61] Scotus modified this theory by redefining the priority of nature. It must have some kind of unity of its own. Scotus calls this a less than numerical unity, which is compatible with the numerical unity of the existing singular manifestations of nature.[62] There is a formal distinction between the common nature as such and its individual instantiations.[63] The minor unity of nature is the basis of the community between things having this nature. Nature as understood is the content of the universal concept, and universality as plural predictability belongs to the concept as a second intention, that is, as a tool of intellect.[64] The singular manifestations of common natures are individuals. These are not individualized by any extrinsic principle of individuation. They are what they are by their individuality, which Scotus calls "thisness" (*haecceitas*).[65]

Scotus's examples of the instantiations of common natures are mostly substances, but in the light of his theory of the categories one could regard any common categorical item in the same way. They represent categorical common natures as their individual instantiations and are not dependent on anything else for their individuality.[66] While some common natures are simple, such as whiteness, many of them are

[59] Socrates is taller than Plato because Socrates's height (the foundation of the relation) is greater than Plato's height (the terminus of the relation, which inheres in Socrates); *In Metaph*. V.11, nn. 47, 50, 62–63 (583, 587). For the descriptions of the categories, see also King 2003, 28–38; Henninger 1989, ch. 5.

[60] *In Metaph*. V.5–6, nn. 93–103 (468–71).

[61] *Liber de philosophia prima sive scientia divina*, V.1, 228, 233–34; Noone 2003, 102–5.

[62] *Ordinatio* II.3.1, q. 1, nn. 33–34 (ed. Vat. VII, 403–5); *Reportatio Parisiensis* II.12.5, nn. 8, 11–12 (Wadding 11.1, 327–8); Honnefelder 1990, 124–27; Honnefelder 2005, 103–4.

[63] *Ordinatio* II.3.1, q. 5–6, n. 188 (ed. Vat. VII, 484); Honnefelder 1990, 133.

[64] *Ordinatio* II.3.1, q. 1, n. 42 (ed. Vat. VII, 410). For the distinction between community and universality, see Noone 2003, 108–11.

[65] *In Metaph*. VII.13, nn. 119–24 (258–62); *Reportatio Parisiensis* II.12, q. 5, n. 8 (ed. Wadding XI.1, 327); Honnefelder 1990, 130–31; (2005), 105–6; Noone 2003, 118–21.

[66] *Ordinatio* I.5.1, nn. 18–21 (ed. Vat. IV, 17–20); *Ordinatio* II.3.1, q. 4, n. 89 (ed. Vat. VII, 433–34); Pini 2005, 84. For the background of Scotus's view, see also Ebbesen 1988, 132–34.

complex, such as the nature of human beings and other composite substances. A human being is composed of matter, which is a being in its own right; the corporeal form, which structures the body as a whole; and the soul, which, while being a substance, functions as the form of the composite, making it a living substance and providing it with sensitive and intellectual powers. All these elements are themselves beings with a common nature, and the same holds of various absolute qualities and bodily organs, such as the heart.[67] A composite substance is thus a collection of really distinct existing things the common natures of which are individuated there:

> The existence of the whole composite includes the existence of all the parts in this way, and it includes many partial existences belonging to the many parts or forms, just as the whole being made up of many forms includes those partial actualities.[68]

In order to avoid the impression that a composite substance is a mosaic of distinct pieces of instantiated common formalities or realities, commentators have stressed that the whole is a union organized by an essential order.[69] Scotus says this about the constitutive elements, but in addition there is an aggregate of numerous further categorical beings, such as accidental qualities, inherence relations, and other non-absolute qualifications. Scotus's adherence to the identity theory of predication is part of this picture.[70] While "whiteness" stands for a quality in itself, "white" stands for a white being of which other concrete things may be also predicated.[71] It is of some interest that one of Scotus's metaphysical guidelines was the parsimony principle, which holds that plurality should not be posited without necessity. He regarded the theory of the simplicity of categorical beings without embedded structures as an application of this principle and the result as an ontological simplification.[72] This aspect of Scotus's theory has been often left in the shadow of his generosity with various kinds of formalities, which Ockham criticized in his much more parsimonious ontology.

[67] *In Metaph.* VII.20, n. 38 (389–90). See also King 2003, 49–56.
[68] *Ordinatio* IV.11, q. 3, n. 46 (ed. Wadding VIII, 649), translated in King 2003, 54.
[69] Honnefelder 2005, 107.
[70] See Pini 2004.
[71] See note 66 above.
[72] *In Metaph.* VIII.1, n. 22 (403–4); according to Pini 2005, 91, "Scotus's doctrine of the categories amounts to a dramatic ontological simplification."

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4

OCKHAM ON BEING

Calvin G. Normore

1. INTRODUCTION

Being is as central a philosophical notion as one can find. It is one of the Great Kinds of Plato's *Sophist* (254B ff) and the focus of the treatises now collectively referred to as Aristotle's *Metaphysics*. Following Jerome's rendering of Exodus 3:14 as *Ego sum qui sum*, Augustine and Boethius identified God and being, and they were followed by most of the medieval Latin tradition. There is hardly a medieval philosopher who can be understood without an understanding of his account of being.

The medieval Latin terminology concerning being is complex. There is *esse*, etymologically the infinitive "to be," but also frequently used as a noun; there is the participle *ens* (sometimes, as in Anselm's *Monologion*, *essens*); and then there is *essentia*, a noun that grammatically is in relation to the nominal use of *esse* as an abstract term is in relation to a concrete one—as "whiteness" is to "white," for example. "Being" is in its form a participle, and *ens* is its natural Latin analogue, but *ens* is from the beginning a term of art, one apparently introduced into Latin in late antiquity. Lorenzo Valla criticizes Boethius for introducing it. The provenance, the meaning, and even the intelligibility of this terminology were contested at various points in the Middle Ages, and sorting it out would by itself be a major project. I will instead start from these various forms of *esse* and follow out further connections Ockham himself suggests.

2. BEINGS OF REASON

Aristotle divided being into being without and within the mind. Medieval theorists characterized this distinction as one between real beings and beings of reason, where beings of reason were understood to be dependent on the mind.

In the earliest work we have from his pen, Ockham seems to have considered as "provable" (*probabile*) a view that posits items "made up" (*fingere*) by the mind as the termini of certain acts of thinking. The proposal Ockham is canvassing is that every act

of thought is directed either at an actual or possible individual or at a *fictum* made up by the mind and having no real being (*esse reale*). The being (*esse*) of such items is "for them to be known" (*esse eorum non est aliud quam ipsa cognosci*) and, says Ockham, they are called *idola* by some and *ficta* by others. Ockham does not hesitate to call them *entia*, but only in the phrase *entia rationis* (as contrasted with *entia reales*) (OP II, 370, 9–10), and he speaks of them as having "only 'objective being' [*esse obiectivum*] or 'known being' [*esse cognitum*]" (OP II, 370, 7).[1]

How are we to understand these *ficta*? In the proemium to his commentary on Aristotle's *De Interpretatione* Ockham provides us with a motley of examples, such as the chimera, the goat-stag, and "such buildable things as camps, houses, and cities, which are thought about by the builder before they are produced in real being" (OP II, 370, 13–14). Then, having distinguished between "*ficta* to which nothing similar is able to correspond in re such as chimeras" and others "to which similars correspond or are able to correspond in real being [*esse reali*]," he adds that on this view universals are *ficta* of this second sort.

Artificial sweetener is a kind of sweetener, but pretend money is not a kind of money. Is *esse obiectivum* a kind of *esse*? First we must distinguish being a *fictum* from having *esse objectivum*. *Ficta* have *esse objectivum*, but so do actual and possible individuals when they are thought about. *Ficta* are the peculiar objects of thought that have *esse objectivum* and could not possibly have *esse reale*—though apparently they can be thought of as they would be if, *per impossibile*, they did exist.

In *I Sent*. d. 2 q. 8 Ockham argues for *ficta* by suggesting that positing them provides us with a candidate for what Aristotle understood by "being in the mind." If *ficta* are thus the items in one of the primary divisions of being, it might seem that Ockham is, at this point in his work, committed to thinking that they are beings. Moreover, when Ockham does come to reject *ficta*, as he does in his mature work, it is on grounds of parsimony rather than on the ground that the very idea of a *fictum* is incoherent. It is plausible to think that the parsimony he has in mind is ontological, and if this is so, then in his earliest work Ockham thought having *esse objectivum* a sufficient condition for being. Nonetheless, Ockham never says that *ficta* simply *are*, and in his mature work he maintains that there are just two categorematic senses of "nothing" (*I Sent*. d. 36 q.1). In one of these, what could not or cannot exist is nothing. In the second, more customary sense, whatever does not actually exist is nothing. In the first sense, chimeras, goat-stags, and universals are nothing, but the Antichrist is not; in the second, chimeras, goat-stags, universals, and the Antichrist are all nothing.

[1] All references to Ockham's work are to the volume, page, and line numbers of the *Opera Philosophica* (OP) or *Opera Theologica* (OT), in *Opera philosophica et theologica*. Unless otherwise indicated, translations are my own.

Hence in both senses when we think about chimeras or universals there is nothing we think about, but when God or we think about the Antichrist there is, in the wide sense of "is," something we are thinking about. Hence *ficta*, at which terminate thoughts of items that could not exist, would be nothing in every sense for the mature Ockham, while the Antichrist and other things that could exist but happen not to are, in one sense at least, beings.

In *I Sent*. d. 35 q. 5 (OT IV, 493) Ockham says explicitly that ideas, which are the things producible by God, are things cognized by him. In *I Sent*. d. 36 q. 1 (OT IV, 550) he says explicitly that the things producible by God but not (yet) produced are (presumably in the more customary sense) nothing, not items with diminished being of any sort. This reflects his general view that it is a mistake to infer from a claim that something will be or can be or can be thought to be that there *is* (in the customary sense) something that will be or can be or can be thought to be. This, in turn, suggests that even the early Ockham would have been reluctant to infer from the fact that I think of a chimera that there *is* a chimera of which I am thinking.

3. "BEING" AS A TRANSCENDENTAL TERM

By Ockham's time the view that there were terms that applied to everything—and even applied to everything in the same sense (what the tradition calls transcendental terms)—was well established. Ockham thinks "being" (*ens*) itself is such a term, and he thinks there are several other terms convertible with it in the sense that for such a term X, "All beings are X and all X's are beings" is true. Ockham explicitly claims that "one" (*unum*), "good" (*bonum*), and "true" (*verum*) are such terms (S.L. I c. 10). Among these terms, however, "being" has a special place because it has a sense in which it is an absolute term.

Ockham recognizes two types of simple terms: categorematic terms, which signify things, and syncategorematic terms, which do not themselves signify things but which, inter alia, affect the significations of categorematic terms. Ockham probably thinks that "to signify" is indefinable, strictly speaking, but he explains (in S.L. I c. 33) that in a narrow sense a term T signifies a thing R just in case the sentence "This is T" (demonstrating R by "this") is true, and that a term T signifies a thing R in the wide sense of "signify" just in case "This can be T" (demonstrating R by "this") is true. Among the categorematic terms some are absolute and some are connotative. Broadly speaking, the entire semantic function of an absolute term is to signify the things it signifies. Absolute terms either are what Ockham calls intuitive cognitions of singulars or are obtained by a mental process of abstraction from such cognitions. Connotative terms also signify what they signify, but they do not merely do so; their signification is determined by following out a path fixed in more complicated ways.

Connotative concepts are typically complex concepts formed by composition of other concepts. This path and that composition are typically indicated by the nominal definition of the connotative term.

Ockham thinks that "being" is an equivocal term, but he thinks there is one sense of that term in which it is a transcendental absolute term predicable *in quid* of everything (S.L. I c. 38). The concept that provides something like the sense of that term in English and of *ens* in Latin is an absolute concept abstracted directly from an intuitive cognition. It thus has no more semantic structure than does a proper name. Other transcendental terms such as "one" or "good" or "true" are connotative terms. For example "(a) good" has the nominal definition "something that can be willed or desired according to right reason" (*aliquid secundum rectam rationem volibile vel diligibile*).

Is "being" (in its transcendental sense) the only absolute transcendental term? Given Ockham's view that synonyms in a natural language are subordinated to the same concept and the plausible interpretation of him as holding that any two absolute terms having the same wide signification are synonyms, it would follow that any other absolute transcendental term would have to be subordinated to the same concept as the transcendental sense of "being." Among the plausible candidates for being so subordinated are "entity" (*entitas*), "thing" (*res*), and "something" (*aliquid*). To the best of my knowledge Ockham never explicitly addresses this issue, and while his practice might suggest that we should take these as synonyms for "being" in the transcendental sense, we should be cautious. I take this to be an unsolved problem about Ockham's account.

It is Ockham's view that as long as there is an absolute term (itself a contingent being in some mind), it signifies in the wide sense the very same things, and it signifies in the narrow sense whatever among those things exists (in the more customary sense of "exists"). "Whiteness" (*albedo*) is for Ockham an absolute term. If we consider a particular (instance of) whiteness, it is a whiteness as long as it is at all. On the other hand, "white" (*album*) is for Ockham a connotative term and signifies the things it does (bits of alabaster and other white things) because each of them has (*habet*) a whiteness—that is, in each of them a whiteness inheres (*inhaeret*). Should one of them lose its whiteness, the term "white" would cease to signify it. It is Ockham's view that a thing can gain or lose a whiteness without anything being created or destroyed. Thus if we notice that a thing has become or ceased to be white or that there are now more or fewer white things than there were, we cannot tell for certain whether the furniture of the world has changed; it may be just that the furniture has been rearranged. However, if a whiteness comes to be or ceases to be or if there come to be more or fewer whitenesses, then the furniture of the world has not just been rearranged, it has changed. Thus we can read off Ockham's ontology from the significations of absolute terms in a way that we cannot read it off from the significations of connotative terms. We must be careful here, though. As we shall see below, it is not clear that, strictly speaking, any

term denoting a composite substance can be absolute, and if the persons of the Trinity really are relations, it may not be possible to completely characterize Ockham's ontology in absolute terms.

4. BEING AND THE CATEGORIES

The question of how to understand Aristotle's project in the *Categories* was a central one in the Middle Ages. At least from the early twelfth century on we find two broad traditions. One maintains that categorical expressions such as "substance" and "quantity" are terms that pick out (collections of) other terms; the other maintains that they are terms that pick out things. At one extreme of the first tradition we find the view, advanced by the Garlandus of the *Dialectica* and attributed to Aristotle by (inter alia) Ockham and Buridan, that there are only things (*res*) picked out in different ways by terms in the different categories. At the other extreme of the second tradition we find the view attributed by Scotus, Ockham, and others to various *moderni* that the terms of each category pick out distinct and disjoint collections of beings. An intermediate position (and perhaps the typical one) was held by Scotus, who claimed that there were disjoint collections of beings picked out by terms in each of the four major categories (substance, quality, quantity, and relation) but that terms in the other, minor categories did not pick out further beings but rather picked out in further ways the beings already picked out by terms in the major categories. Ockham seems to begin from roughly this position and to conclude in his latest works that, leaving certain puzzles about the Trinity aside, there are in fact beings only in the category of substance and in two of the four species of the category of quality. Ockham explains at the beginning of his commentary on Aristotle's *Categories* that the Categories are in the first instance classifications of terms and only classifications of beings insofar as classifying terms gives us a classification of beings.

In his mature philosophy Ockham insists that everything that exists is entirely actual. His ontology, at least in its mature form, appears to consist of matter, substances, parts of substances, and items in two of the four recognized species of quality. He also maintains that the persons of the Christian Trinity, although severally and jointly one substance and not parts of one, are real, though he insists that this can be known only by faith and though it is not entirely clear under which category he thinks them to fall. Substances are either simple or composite. God (leaving aside the issues about the Trinity), angels, and human intellectual souls are simple substances, that is, they are not composed of parts of any kind. Human beings, animals, plants, and elemental bodies are composite substances in two senses: they have as parts both matter and substantial forms, which are their essential parts, and they are extended in space, so both the matter and the substantial forms of which they are composed have integral

parts, which in turn have integral parts, and so on ad infinitum. In his question commentary on Aristotle's *Physics* Ockham insists that any parts of actual things are themselves actual (OP VI, pp. 595–97), and so he is committed to an actual infinity of actual items—though he insists that the parts of a substance are not substances properly speaking, and he believes that the number of substances properly speaking is finite.

As this sketch indicates, the structure of substances is typically, for Ockham, a rather complex matter. Spiritual substances, angels, and human intellectual souls are simple; they are pure forms without any matter whatever and without any parts whatever. Thus unlike, for example, Scotus, who recognizes a formal distinction between the human intellect and the human will, Ockham recognizes no distinction *a parte re* between them at all and, unlike Aquinas, who thinks the human intellect and will are not identical with the substance of the soul, Ockham thinks they are. The case is similar for the angels. Ordinary extended substances, however, including human beings, are themselves beings made up of other beings.

At one extreme of the hierarchy of beings made up of beings there is prime matter. Like Scotus, and unlike Aquinas, Ockham thinks that matter has an actuality of its own apart from any connections with form and that while it never exists in nature unformed, it could, at least by God's absolute power. Ockham thinks that prime matter is quantified of itself and that each quantity of prime matter is made up of other quantities and so on, ad infinitum. In the spirit of some mereologies of our own day he seems also to think that there is nothing more to each quantum of prime matter than the quanta that are its parts.

Matter does not naturally exist unformed, and Ockham thinks that at the most elemental level we find forms combined with prime matter. Such forms have integral parts isomorphic to the integral parts of the matter, and each of the integral parts of an elemental form would be, if separated from the others, an elemental form. This structure is also found a level up in substances such as bronze or wood, which are mixtures of elements. Ockham is thus committed to there being actually infinitely many beings in each composite substance. Ockham does not think that each of these beings is itself a substance because he takes it to be definitive of a substance that it is not part of another substance. For him each substance is a complete being, while each part of a substance, though actual, is an incomplete being. Ockham seems to think that it would be contradictory to suppose that there are infinitely many complete beings.

Ockham's view that a composite thing just is its parts raises a complication for his theory of absolute terms that was noticed in the fourteenth century (by Albert of Saxony, for example) but has only recently come to the attention of scholars. The parts (whether essential or integral) of typical composite beings could exist without the composite existing. Thus, it seems, some condition must be met (or must fail to be met) for those parts to constitute the composite. Hence for a putatively absolute term

to apply to a composite, it seems some condition must be met (or must fail to be met), and so the distinction between absolute and connotative terms is blurred—and with it the thought that Ockham's ontology can be limned with absolute terms alone.

Whatever the consequences of this complication, Ockham thinks that absolute terms are generally found only in the categories of substance and quality. This suggests that, strictly speaking, the only beings there are are substances and qualities. As we shall see shortly, this doesn't prevent Ockham from using the term "being" in more complex ways, but as we shall also see, these uses do not introduce new beings. There is one complication to this picture, which will be taken up below: Ockham does seem prepared to admit within God, purely on the grounds of "the authority of the saints," relations of origin that constitute the three distinct persons of the Trinity (*Ord*. I d. 26 q. 1; OT IV, pp. 156–57). These are, however, not distinct from the divine essence, and so when we count beings we should not count three relations in addition to the (non-relational) divine essence.

Ockham argues for his thesis that we find absolute terms only in the categories of substance and quality by arguing against the view that there are absolute terms in the other two major categories, quantity and relation. His arguments here are of two kinds. One is a series of metaphysical and physical arguments that there cannot be things falling under terms in the categories of quantity and relation that do not fall under terms in the categories of substance and quality, and the other is a series of semantic arguments about the analysis of terms in those categories. Let us take first the category of quantity and then that of relation.

Ockham does not think that there are in substances or qualities any distinct items (quantitative forms or the like) in virtue of which they are extended or quantified. Things are extended or quantified through themselves. They are extended insofar as they have parts outside of parts. Obviously, then, only things with parts can be extended properly speaking. Ockham thinks that only God, angels, and human souls are simple in the sense of not having parts that at least could be outside of other parts, and so he thinks that everything else is extended.

Ockham is happy to use quantitative nouns such as "point," "line," and "surface," but he does not think that these signify anything other than substances and their qualities. To speak of the surface of a body, for example, is to speak of the body as extended thus far and no further in a certain direction. To speak of two bodies meeting at exactly one point is to speak of them as each having exactly one part that (1) is not distant from a part of the other, which (2) has exactly one part that is not distant from a part of the other, which (3) has exactly one part that is not distant from a part of the other—and so on. Needless to say, it is easier to talk of points and surfaces than to use such complex expressions, but such talk takes on a life of its own that makes it appear as though "point" and "surface" are absolute terms. They are not, however, and although they

often cannot be eliminated by replacement with a single nominal definition in every context, they can be eliminated in each context, and no metaphysical conclusions should be drawn from their use.

The category of relation (*ad aliquid*) raises further issues. Like every category, it is a category of terms, and within it Ockham, following Aristotle's distinction of three types of relations (*Metaphysics* 5.1020.b26ff.) distinguishes three classes. His favorite example of the first type is being similar, of the second type is causing, and of the third type is knowing. Ockham thinks that if he can show that none of these requires positing new being, no relational term of a sort Aristotle considers will. His strategy can be illustrated with similarity. On Ockham's account "Peter is similar to Paula" (understood as a claim of essential similarity rather than as shorthand for a claim that they are similar in some accidental respect or other) is made true just by Peter and Paula. Given that two humans (say), Peter and Paula, exist, they are similar and there is no need to invoke a third item—a similarity—in virtue of which they are similar. Ockham maintains that God could make any creature without any other. If a similarity between Peter and Paula were a being, God could make Peter and Paula without making it—but the existence of Peter and Paula is enough to ensure that they are similar. Hence their similarity is not any third thing. What, then, is it? Ockham's thought is that in sentences such as "Peter is similar to Paula," "similar" picks out just the things that are similar—Peter and Paula, for example—but it picks them out not one by one but in groups. In the example "similarity" picks out Peter and Paula not one at a time, as, say, "human" does (so we can truly say "Peter is a human and Paula is a human"), but rather two at a time, because it is Peter and Paula who are similar, not Peter alone or Paula alone. Hence we can truly say "Peter and Paula are similar" but not just "Peter is similar." We might be tempted to say that "similarity" picks out pairs or *n*-tuples of things, and I presume Ockham would have no quarrel with that—provided we did not suppose that the pair of Peter and Paula is a thing other than Peter and Paula.

Similarity is an especially clear case for Ockham because "similar" (*similis*) behaves like an absolute term. If we turn to more familiar relations, such as "is a father of," things become slightly more complex. If Peter is father of Paula, it is because Peter is an efficient cause of Paula in the way fathers cause. Ockham concludes that "is father of" should be understood as signifying fathers and their children pairwise and connoting that one is an efficient cause of the other in that way.

Ockham suggests there are three cases that raise special problems for his strategy of eliminating relations. One of them, the case of the Trinity, was alluded to above. Here Ockham seems in the end to admit relations—though he grants that were it not for the authority of the saints, one might just as well maintain that the persons of the Trinity are three "absolute things" that are one substance. Whether the distinct persons of the Trinity are distinct beings (*entia*) for Ockham is unclear to me. The other two cases are the union of form and matter to make a single composite substance and the union of

the integral parts of a continuous body to make it one. These cases have a common structure. In each the issue is what, if anything, unifies distinct items (the individual essential parts—the matter and form—in the first case, and the individual *integral* parts in the second) to yield a composite that is in the appropriate sense one.

Ockham seems to have had some difficulty with this issue early in his career, and there is some evidence that he considered positing relations of union to handle these cases. But by the time he had written the text on parts and whole included as article 2 of the critical edition of *Questiones Variae* q. 6, he seems to have found an approach that satisfied him. There he accepts the principle that a whole just is its parts and rejects the need for any *forma totius* or other item unifying those parts. Rather, the relevant parts constitute a unity unless something prevents them from doing so. In the case of the integral parts of a continuum, what would prevent them from being united would be their being separated in place—which for Ockham does not involve the making or destroying of any being. What would prevent the matter and form of a composite substance from being united is less clear. Ockham considers the case of Christ in the tomb during the triduum between his crucifixion and resurrection and argues that since both his body and soul were present in the same place but were not united, there must have been some "real relation" (*respectus realis*) present that prevented their union, but he does not try to specify what it might be (Q.V. 6, art 2; OT VIII, pp. 217–18).

Ockham seems to think that the pattern of explanation he employs in arguing that terms in the categories of quantity and relations don't introduce any entities not already picked out by absolute terms in the categories of substance and quality can be extended more or less mechanically to the other, "minor" categories. Hence he concludes that, the Trinity aside, the only beings there are are substances and qualities. He does not, however, argue that positing such beings is incoherent; rather, as with his later attitude toward *ficta*, his view seems to be that there simply are sufficient reasons to suppose there are no such beings.

5. BEING OUTSIDE THE CATEGORIES

Ockham's mature account of extra-categorical being is simple enough. There are no such items—no modes and no *complexe significabilia*, in a later parlance no facts, states of affairs, or propositions. In taking this position, Ockham differs from almost all of those classed together with him as *nominalistae*. There are two reasons why other theorists who share many of Ockham's basic commitments nevertheless admit extra-categorial beings—those who admit *complexe signficabilia* do so to provide bearers of truth and objects of belief, while those who admit modes of being do so to provide accounts of how there can be change even though no substance or quality comes into or passes out of existence.

The mature Ockham has no need of extra-categorial beings to be the bearers of truth or the objects of belief. On his view the bearers of truth are sentences—ordinary spoken or written sentence tokens, or token sentences in the mental language. The former are aggregates of sounds or inscribed marks (and so, on Ockham's view, typically collections of qualities), the latter qualities of mind or collections of such. It is true that Ockham is not careful about insisting that sentences are tokens, not types (not nearly as careful as Buridan, for example), but, given his adamant rejection of anything but particular beings, it is clear enough that he thinks they are.

The worries about change are another and more complex issue. Suppose Socrates is white at time *t* but not white at *t′*. In the ordinary case this is because a being—the particular whiteness in virtue of which Socrates was white at *t*—has ceased to exist. In a more unusual case (evidenced by the persistence of qualities after the destruction of the bread in the Eucharist) it might be that the whiteness continues to exist but Socrates does not. Ockham, however, admits a third case—one in which Socrates and the whiteness both continue to exist but the whiteness ceases to inhere in Socrates. Because there is, for Ockham, no relation of inherence, this difference does not involve anything coming into or passing out of existence. Exactly the same things are before and after this change; it is just that they are in a different way (*modus*). Before the change Socrates and the whiteness were in one way, and after they are in another. A similar story is to be told when Socrates moves from Athens to Piraeus. It may be, of course, that such a change involves the coming into or passing out of existence of something, but it need not; at a bare minimum it may just be that Socrates is in Athens at one time, in Piraeus at another, and at intermediate places at intermediate times. Many of Ockham's contemporaries supposed that such analyses required one to admit, besides categorial beings, ways such beings are; Ockham did not. To the extent that Ockham has a criterion of ontological commitment, it is that one is committed to whatever is signified by a term that is the subject or predicate of a categorical sentence. Expressions such as "in Piraeus" or "inheres in Socrates" are not fitted to be such terms. They have significant parts but do not signify as wholes any more than sentences themselves do. Hence in using them one is not committed to beings other than the beings signified by their parts, any more than in forming sentences one is committed to anything other than the significates of the terms involved.

6. THE EQUIVOCITY OF BEING

Despite his rejection of quantities and relations, Ockham is nonetheless happy to say that quantities are beings and that relations are too. To see why, we need to consider his views on the equivocity and univocity of being.

One way of putting this issue is as whether the terms *ens* and *esse* are used in different senses when truly predicated singularly of different items. Thomas Aquinas famously

claimed both that they were and that this had been the teaching of Aristotle. Others either flatly disagreed or held more nuanced views.

The importance of the question whether *ens* (for example) is predicated in different senses depends in part on what one understands predication to be. Many who were called realists claimed that predication was a relation between things. Understood thus, the question whether *ens* is predicated univocally across the categories is a way of asking whether things in the world *are* in different ways. Others, and Ockham is one, insisted that predication is a relation only among signs. Since Ockham also understands the categories to be classifications of signs, for him the question of whether being is univocal or equivocal is just the question of whether the various signs (words or concepts) signified by the various category signs (the words or concepts: "substance," "quality," "quantity," etc.) are all such that the sign "being" can be applied to them in the same sense.

I stress this because Ockham thinks that "being" (*ens*) is not applied in the same sense to the signs in all the different categories, but he does not (and we should not) immediately draw any ontological conclusion from this. Ockham does think that each thing there is is and is a being in the same sense. What he denies in denying that *ens* is univocally applied across the categories is that the signs in categories other than substance and quality pick out things in the same way as do signs in those two categories. What he asserts is that signs in these other categories pick out the same things as do signs in the categories of substance and quality but pick them out in different ways. Thus while Ockham can agree verbally with Aquinas that being is equivocal across the categories, he does not think that Peter and his whiteness exist in different senses or that there are, in addition to Peter and his whiteness, such kooky objects as "white Peter."

As we saw above, Ockham is happy to admit that sentences such as "A quantity [*quantum*] is a being" or even "A similar is a being" are true, and he insists that when we assert such sentences we are using "being" in a different sense from that in "A whiteness is a being" even though "quantum" and "similar" are categorematic terms that pick out the very same things that are picked out by terms in the category of substance. As he explains in his commentary on Aristotle's categories, this is because while terms in the categories of substance and quality pick out their significates *divisim* (that is, one by one), terms in the other categories pick out the same things *coniunctim* (that is, several at once).

Ockham's thought about the equivocity of being, then, is that when *ens* is predicated of terms that pick out things pairwise (or more generally *n*-tuplewise), it is used in a sense different from the sense in which it applies to terms that pick them out one by one. Terms in the categories of substance and the two species of quality in which there are absolute terms pick out things one by one. Other terms pick out things *n*-tuplewise.

Hence "being" is applied to these other terms in a sense different from that in which it is applied to terms in the categories of substance and quality. What remains unclear (to me) is whether this strategy yields the result that, for any two categories, "being" is applied to terms in those categories equivocally. What Ockham needs to make out this claim is a way to distinguish between different ways of being picked out to which the same *n*-tuples of things might be subject without thereby introducing new entities of any kind—even "ways."[2]

A second issue about equivocity that exercised medieval thinkers concerned whether any predicates, and in particular the term "being," could be applied univocally to God and creatures. Aquinas had famously argued that predicates that applied to creatures could only be applied analogously to God, and a long line of thinkers influenced by neo-Platonism had argued that such predicates could only be applied in ways more radically equivocal. On the other hand, Scotus had insisted that if we were to have any knowledge of God, there had to be predicates that applied to God and creatures univocally.

Ockham sides here with Scotus and uses arguments very similar to Scotus's, but again his discussion is structured by his semantics. For Ockham there is no such thing as an equivocal or analogous concept; there are only equivocal terms. A term is equivocal when it is subordinated to (that is, when its signification is determined by its relation to) more than one concept. Concepts apply to things or they do not—there are no degrees of application. As we have seen, Ockham thinks that "being" (*ens*) is an equivocal term that is subordinated to one concept when it applies to things *divisim* and to others when it applies to them *coniunctim*. Ockham is adamant, however, that there is a concept of being (and so one sense of the term "being") that applies *divisim* to everything that there is. This concept applies equally to God and creatures, and among creatures to substances and the qualities there are. Ockham's basic argument for this is taken from Scotus. It is that one can believe of something picked out by a demonstrative that it is something while doubting of any more restrictive concept that it applies. I can look off into the distance and see what I am sure is something while being unsure whether it is a bear, a rock, or a patch of color. I can hear a voice in a cloud and be sure someone is speaking to me while being unsure whether it is God or a human.

One of the more striking reasons some medieval theorists, for example Aquinas, think that "being" must be equivocal between God and creatures is that they think that God *is* Being—that is, that what it is to be God is to be, whereas creatures have being

[2] This issue, the various ways in which being may be predicated of accidental terms that signify substances and also either consignify one or more substances or qualities or consignify the parts of a substance, and how this affects Ockham's remarks about the univocity of "being," has been explored by Jenny Pelletier (2010).

but being is not of their essence. Hence when we say that God exists we are saying something about what God is, but when we say a creature exists we are not. Ockham simply denies this distinction: he insists that every being is such that its existence, what he calls its *esse-existere*, and its essence, its *essentia*, are the very same thing—namely, that thing itself. This identification (which we also find in, for example, Jean Buridan) has as a consequence that for Ockham "Peter is," Peter is a being," "Peter is an existent," and "Peter is something" are all strictly equivalent sentences and all require for their truth just one thing—Peter.

We can see the force of Ockham's picture by comparing it with an approach found in Aquinas and among Thomists. Thomas argues that in creatures *essentia* and *esse* must be (really) distinct; for example, gold is a particular mixture of the four elements whether or not it exists, and so its existence must be distinct from what it is. On the other hand, for Aquinas *what* God is is *that* God is, and so there is no question of understanding what God is and still being in doubt about whether God is.

There is much to wonder about in this argument, but what is striking about Ockham's approach to it is that on his view the premises are false. Ockham would claim that gold is a particular mixture of the elements if and only if it exists. Every affirmative assertoric sentence has existential import, and this one is no exception. Hence the claims

(1) Gold is such-and-such mixture of the elements

and

(2) Gold exists

have exactly the same truth-conditions, and so it cannot be that one requires something contingent that the other does not. What is the case is that the conditional "If there is gold, it is such-and-such a mixture of the elements" and the modal claim "It is not possible that gold exist and not be such-and-such mixture of the elements" are both true. These are two ways Ockham will accept of putting the claim that others might put by claiming that gold is necessarily or essentially such-and-such mixture of the elements, but they do not give any comfort to one who wants to separate essence and existence because, on Ockham's view, if we were to replace "is/be such-and-such mixture of the elements" by "exists" in these sentences, we would obtain new sentences with exactly the same truth-conditions. Thus Ockham concludes that the separation of essence and existence rests on a conceptual confusion induced by using an assertoric form of words to express a conditional or modal claim.

7. ONTOLOGICAL COMMITMENT TO THINGS THAT DO NOT PRESENTLY AND ACTUALLY EXIST

Once we take on board that Ockham uses "being" in many ways, it becomes somewhat puzzling how to frame the issues of ontological commitment that have exercised more recent thinkers. We have already seen that there is a sense in which Ockham thinks that there are substances and qualities but not quantities and relations, but there is a sense in which there are quantities and relations, too. *Ficta* do not have real *esse*, but they do have *esse obiectivum*. To determine whether Ockham is committed to their being entities of a given sort, we need first to specify the sense of being at issue. This underdetermination of the question also affects the issue of whether Ockham is, in the terms used in recent philosophy, an actualist or even a presentist.

By the fourteenth century it was generally thought that affirmative sentences that lacked modal or tense indicators, sentences such as "Socrates is human" or "Every human is an animal," required that their subject terms (and for many writers, including Ockham, their predicate terms) pick out (that is, supposit for) some things. Negative sentences such as "Socrates is not human" or "Some humans are not animals" were thought to be true if their terms did not pick out anything. Thus one can get a handle on what a typical fourteenth-century theory supposes to exist by seeing which affirmative assertoric present-tensed sentences are accepted in it. Acceptance of "Socrates is human" commits to Socrates; moreover, it commits to the *existence* of Socrates, because the inference from "Socrates is human" to "Socrates is" is valid.

That affirmative assertoric present-tensed sentences have existential commitment is central not only to Ockham's semantics but also to his metaphysics. Philosophers have recently come to think of issues of existential commitment in terms of the range of quantifiers. Proper names are usually thought to function in such a way that if we accept, for example, that Peter does not exist, we are entitled to infer that something does not exist, and thus to conclude that whenever we speak of objects using names or quantifiers we are committed to there being such objects. Ockham does not think of existential commitment in this way. In his picture, existential commitment is carried by affirmative assertoric present-tensed sentences in the sense that if such sentences are true, then the items signified by their subject and predicate terms exist.

Consider the sentence "Some dinosaurs are not animals." According to Ockham, this sentence is true if there are no dinosaurs and also true if there are dinosaurs and some of them are non-animals. Since there are no dinosaurs, it is in fact true. Yet it is about dinosaurs, and if, as Ockham thought, there are no forms or natures distinct from individuals, then for the sentence to be about dinosaurs it must be about particular dinosaurs. If there are no dinosaurs, how can it be about them?

In the case of the dinosaurs the answer is fairly straightforward. In a natural sense a sentence is about what its subject and predicate terms stand for, and in typical uses those terms stand for what they signify. Although Ockham never attempts to define signification, he does suggest (in S.L. I c. 33) that "to signify" has the two senses mentioned above. In the narrow sense of "to signify," a term T signifies an object O just in case "That is T" is true where "That" picks out O. Since "That is T" is a present-tensed assertoric sentence, if it is true, then whatever "that" picks out exists. In the wide sense, however, a term T signifies an object O just in case "That can be T" or "It can be that that is T" is true where "That" picks out O. Ockham's thought seems to be that since these are modal rather than assertoric sentences, "to signify" in the wide sense does not commit existentially—in the sense that one cannot infer from "O is signified by T" that O is. In the case of "Some dinosaurs are not animals," "dinosaurs" does not signify anything in the narrow sense of "signify," but in the wide sense it signifies a great many animals that used to exist but no longer do; it signifies the things of which it *is* true to say that they *were* dinosaurs.

In this picture, then, Ockham does not think that all affirmative assertoric present-tensed sentences commit one to the actual existence of what their terms stand for. Some, for example those involving semantic expressions such as "signifies" or "true," do not. Such expressions affect the supposition of terms in sentences containing them, so they may stand for things that do not exist. Unlike the usual semantics for late twentieth-century modal and tense logics, which analyze modal and tense locutions in terms of quantification over an expanded domain of past, future, or possible objects, Ockham's semantics does not attempt to eliminate modal or tense expressions in favor of assertoric ones. From "Socrates was human" we can validly infer not "Socrates is" but rather "Socrates was," and for "Socrates will be human" and "Socrates can be human" the analyses are parallel, so that from, say, "Socrates can be white" one cannot validly infer "Socrates is" but can infer "Socrates can be." The situation is complicated, however, because modal and tense indicators are not always overt. For example, in "Socrates is dead" (*Sortes est mortuus*), the phrase "is dead" (*est mortuus*) functions as would the complex phrase "was alive and is not now alive," and so an inference from "Socrates is dead" to "Socrates is" would (as one might expect) be invalid. Similarly, in "The Antichrist is a future thing" (*Antichristus est futurus*), the expression "future thing" (*futurus*) affects the truth-conditions of the sentence, so it is true if the Antichrist is not but will be. Thus Ockham would deny that in accepting either "Socrates is dead" or "The Antichrist is a future thing" he is committing himself to the existence of either Socrates or the Antichrist. Similarly, he would deny that in accepting a sentence such as "Something can be made by God that God never will make" he would be committing himself to the existence of merely possible objects. I take it that he thinks semantic expressions behave in ways analogous to these tense and modal expressions.

Thus "T signifies O" entails "O can be" and so entails "O is a being" (in the wide sense of "being"), but it does not entail "O is" and so does not entail "O is a being" (in the customary sense).

When we talk about dinosaurs we are talking about non-existent things—in this case past things. Ockham does not see any difficulty about this. To talk about something does not involve commitment to its existence unless whatever one is talking about is signified by a term of a true affirmative sentence that is really (and not merely verbally [*verbaliter*]) assertoric and about the present time. Thus there were many dinosaurs that there are not. And since the Antichrist will be but is not, something will be that is not. Moreover, many things could be but are not. If by an actualist we mean someone who thinks that *only* what is actual is a being in the sense in which all actual things are beings, then Ockham is an actualist, and if by a presentist we mean someone who thinks that only what is present is a being in the sense in which present things are beings, he is a presentist too.

Contemporary quantification theory runs together counting and existential commitment. Ockham keeps them separate. For him quantity is the business of quantifiers, but existential commitment is the business of the copula. Thus when we use quantifiers together with non-assertoric copulae there is no commitment to the things under discussion existing in the sense in which present and actual things exist. Ockham does, however, have another relevant sense of "being." He admits two categorematic senses of "being" (corresponding to the two categorematic sense of "nothing" mentioned above) and insists that in the wider sense of "being," "This is a being" is equivalent to "This is not repugnant to existence" and that, in turn, is equivalent to "This can exist." Thus if by a presentist or an actualist we mean someone who thinks there is no sense of "being" in which we can infer from "O will/did/can exist" to "O is a being," then Ockham is not an actualist or a presentist.

Some of Ockham's contemporaries, Water Burley for example, held that there were more than the two senses of being just canvassed. Burley thought there was a sense of "being" in which we could infer from "O is thought of" to "O is a being." In the period of his work in which he countenanced *ficta*, Ockham might have been prepared to agree—though he would have insisted that the sense of being at issue is not being tout court (*simpliciter*) but being in a certain respect (*secundum quid*). In his mature work, however, Ockham is adamant that there is no such sense of "being" as Burley has in mind. Thus for the later Ockham sentences such as "Chimeras are beings" are always false. On Ockham's mature view, "chimera" is a connotative term that is equivalent to something like "Animal with the head of a goat, body of a lion, and tail of a serpent," and a sentence such as "Chimeras are beings," taking "beings" in the widest sense, would be equivalent to "Animals with the head of a goat, body of a lion, and tail of a serpent can exist." Such sentences are always false. If one asks what is signified by the

term "chimera" in such contexts, the answer is that taken as a whole, it signifies nothing at all, but it does have significant parts, such as "animal" and "goat," and these signify respectively all the animals and all the goats. Thus Ockham draws a distinction between beings (in the wide sense) that can be signified and cases in which we seem to be talking about non-beings (in every sense) but in which, on his analysis, we are really talking about beings (in the wide sense) in complex ways.

Ockham thinks that mere possibilia can be signified and named but that they do not exist in the customary sense of "exist." He thinks that chimeras and other impossibilia cannot be signified or named at all (though collections of parts of possible animals could be). He rejects the thought that "being" might apply in any sense to impossibles, insisting that propositions such as "A chimera is something" and "A chimera is a being" are true as long as "'chimera' is suppositing materially or simply, but not personally" (*Quod*. II, q. 8; FK 126). Thus there is a semantic difference between terms that signify possibilia and terms that purport to signify impossibilia, while there is no such semantic difference between terms that pick out possibilia and terms that pick out actualia. There is, however, a significant difference: of things that are now one, can correctly say that they are in the customary sense, while of the rest one can say correctly only that they were, will be, or can be in the customary sense. Thus while one can say that the Antichrist is a being even though the Antichrist does not exist, one should not infer from this that Ockham would think the Antichrist actually has some peculiar ontological status—subsistence or its ilk. To say that the Antichrist is a being (in the wide sense) is to say no more than that the Antichrist can be in the customary sense. Potential existence, for Ockham, is cashed out customarily in terms of the modal "is able" (cf. *Quod*. II, q. 9).

Closely connected with Ockham's thinking about ontological commitment is his thought about the objects of knowledge, both human and divine. Ockham changed his mind about something important in his epistemology between his Oxford lectures on the *Sentences* of Peter Lombard and his reworking of those lectures for distribution. In his Oxford lectures (which survive as a reportatio on Books II–IV of the *Sentences*) he maintained that when one thought about something, that something was a being. If one thought about an individual thing, then, since such things are beings in either the customary sense or the wide sense, their status is that of a being properly speaking (*simpliciter*). If, on the other hand, one thought about something general, then since nothing general could exist *in rerum natura*, that status could only be that of a being *secundum quid* or in a certain respect—that of a being-thought, for example. Being *secundum quid* is not a kind of or way of being *simpliciter* (any more than having a big toe is a way of or kind of being big).

By the time he revised Book I of his commentary on the *Sentences* of Peter Lombard, Ockham had been persuaded that he did not need to suppose items that merely had

being *secundum quid*. In his mature view, every being is a being *simpliciter*. Even in his maturity Ockham does insist, however, that everything that could be, not only those beings that are, are objects of God's cognition. Thus "God cognizes O" does not entail "O exists" but does entail "O can exist" Ockham holds a similar view about human cognition: by the power of God we too can cognize things that can exist but never have existed. Thus "cognizes" (*cognoscere*), like "signifies" (*significare*), applies to all beings in the wide sense—everything to which it is not repugnant to exist—and not merely to everything that does exist.

8. THE RELATION BETWEEN ESSENCE AND EXISTENCE

Ockham insists (*Quod*. II, q. 7) that *esse* and *essentia* signify exactly the same things. He claims that when *esse* is used as a noun, it and *essentia* are substitutable for each other everywhere *salva veritate*. When *esse* is used as a verb, this is not so, but because of a difference in their syncategorematic behavior rather than in their categorematic behavior. A thing is its essence and is its existence. The term "essence" (*essentia*) signifies all of the things there are, and so does the term *esse* when used as a noun. To claim that Socrates exists is to claim no more and no less than that Socrates is one of the things picked out by *esse* when used as a noun, and that is to claim no more and no less than that Socrates is Socrates. This picture (which Ockham shares with Jean Buridan and other fourteenth-century nominalists) is sharply opposed to the one we find in Aquinas and even more clearly in some of his fourteenth-century followers. They maintain that there is a real distinction between the essence of a thing and its existence.

Ockham's picture here has far-reaching consequences. Among the views common at the beginning of the fourteenth century was that creation is a relation that terminates in the created thing. Ockham rejects this view on the grounds that nothing can terminate a relation unless it exists. Hence if creation were a relation, the thing would have to exist and so have been created before it is created—an obvious absurdity.

9. SUBSTANCE AND SUPPOSITUM

The Latin translators of Aristotle use *substantia* to translate the Greek *ousia*, and Aristotle clearly thinks of substance as the category in which belong the complete beings that are the ultimate subjects of predication. Because Ockham thinks there are absolute terms in only two categories, substance and quality, we can say that in a sense he thinks that everything there is is either a substance or a quality. Of course, in another sense we can perfectly well say there are relations and "whens" and items in every other category. Sentences such as "There is a similarity between Cleopatra's Needle and the Eiffel Tower" are true enough, but if one does a bit of analysis, one discovers that in such

sentences nothing other than what is picked out by absolute terms in the categories of substance and quality is signified.

But unlike Aristotle, Ockham does not think that items picked out by absolute terms in the category of substance are always ultimate subjects of predication. Instead, for him, the ultimate subjects of predication are what he calls supposita, where "a suppositum is a complete being, incommunicable by identity, not naturally apt to inhere in anything, and not supported by anything" (*Quod*. IV, q. 7; OT IX, 328). Ordinarily a substance is a suppositum and a quality is not. That is because a substance always meets the first three conditions and ordinarily it meets the fourth. There are, however, extraordinary circumstances, such as circumstances in which a human nature is assumed by a divine person, in which a substance does not meet the fourth condition. In that case it is not a suppositum. Imagine, for example (as Ockham does in *Quod*. IV, q. 8), that all three divine persons assume a single human nature (let us suppose it was previously the single human nature that is you). How many human beings are there at the end of the process? Surprisingly, if we assume that the second person of the Trinity is already a human being in virtue of the human nature assumed at the Incarnation, the answer is one more than there were at the beginning. The first and third persons of the Trinity become human beings, Christ remains a human being (now with two human natures), and the person that is you ceases to exist at all (though the nature that was that person continues to exist).

In the thought experiment just canvassed, has a thing (*res*) or being (*ens*) come into or gone out of existence? There are two more humans than there were before, there is exactly the same number of human natures as there was before, and there is one less suppositum than there was before. If we are to count beings, which should we count? Ockham claims (for example, in *Quod*. IV, q. 8) that the concrete term "substance" stands for supposita. On the other hand, *res* stands in the ordinary case for both substances and qualities, so when Socrates is white there are two *res* involved, Socrates and a whiteness. I have not been able to find a text in which Ockham says clearly how it stands with *ens*, but I hypothesize that it would function like *res*.

What makes the issue of counting beings especially complex for Ockham is a distinction he draws between complete and partial existences and (given the identification of a being with its existence) between complete and partial beings. As has already been stressed, Ockham maintains that each part, essential or integral, of a composite being is itself a being. Nonetheless, he maintains that only those beings that are not parts of other beings are complete beings. Thus while the matter and the substantial form(s) of composite substances are beings, they are not complete beings—only the composite is. Moreover, if we leave aside the persons and the essence of God, all of which are necessarily complete beings, every other complete being is only contingently complete because any or all such could be assumed by a divine person. Were that to happen, whatever had been assumed would cease to be a complete being—but not cease to be a (partial) being.

10. CONCLUSION

Ockham planned a commentary on Aristotle's *Metaphysics* but apparently did not write one. Had he done so, the various threads in his account of being might have been gathered up into a single unified picture. As it is, some things are tolerably clear. For Ockham, metaphysics can only be studied with a weather eye toward semantics, and the uses of the complex vocabulary surrounding the notions of *ens* and *esse* in particular are revealing of what there is. What they reveal is a universe of particulars in the categories of substance and quality (and, if we include the Trinity, a very few particular subsistent relations), all of which are beings in what he calls the more customary sense. Some of these particulars—intellects and minima of some qualities—are simples. All others are composed of parts, and there is no foundational level of such parts. These parts compose wholes, some of which are themselves complete beings and others of which combine with simples to form complete beings. The persons and the nature of God are necessarily complete beings, but everything else is only contingently complete, and God could, without any empirically accessible change in the world, bring it about that there is any number whatever of contingently complete beings. Ockham is happy to admit that many non-existent items can be and that some of these were or will be, and he is willing to admit a sense of "being" in which we say that what can be is a being, but this does not expand the list of what there (actually) is in the more customary sense. Ockham is also willing to speak about pluralities of beings—pairs, teams, peoples, and the like—and to admit senses of "being" in which these too are beings, but the formation and dissolution of such beings also does not expand or contract the list of what (actually) is in the more customary sense. What that sense is can be elucidated, but because "being" in that sense is an absolute term and a transcendental one at that, there is no definition to be had of it. For Ockham, there is no one question of being—to suppose one would be to confuse metaphysics with the philosophy of language—but there is a rich and multifaceted story to be told about beings.

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LEIBNIZ (AND OCKHAM) ON THE LANGUAGE OF THOUGHT, OR HOW THE TRUE METAPHYSICS IS DERIVED FROM THE TRUE LOGIC

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1. INTRODUCTION

It goes without saying that logic lies at the very heart of Leibniz's metaphysics. It is so central to the understanding of his metaphysical thinking that many, not only Russell, have argued that the metaphysics is derived from his logic.[1] Leibniz himself said as much in a 1678 letter to Countess Elisabeth in which he wrote that "metaphysics is scarcely different from the true logic" (G IV, 292; AG 237). Most scholars do not go this far, but all recognize that Leibniz used his logic to guide his thinking on metaphysics.[2]

Scholars writing on the relation between logic and metaphysics usually mean by logic Leibniz's views on sentences (*propositiones*) and truth, but this was not only what he meant by logic. He had a very specific view of logic, the core of which was the Aristotelian syllogistics, but which at the same time aimed at establishing a new and more powerful logic on the lines of a "universal calculus." The aim of this calculus was to serve as a tool for settling *all* formally valid inferences, not only those of a syllogistic form.[3]

A more interesting project, then, is to discuss the relation between Leibniz's metaphysics and this general logical calculus. Is the logical calculus reflected in the metaphysics and vice versa? At first this might seem a strange question, since logic in itself makes no assertions about the external world. It is a purely conceptual study of

[1] See foremost Russell 1900, v, and Couturat 1901, x. For a more contemporary claim of the same kind, see Lenzen 1990 and 2004. See also Lenzen 1990 for further references.

[2] See, for example, Parkinson 1965.

[3] See Lenzen 2004 for an overview of this project.

sentences and their relations. I will argue in this paper, however, that the question makes perfect sense and that there is an intimate connection between the nature of the world and logic for Leibniz—a connection that is mediated by the mind.[4]

In *De interpretatione* 1, Aristotle explains that written words are signs of mental concepts and spoken words are signs of written words. Words are furthermore a matter of convention, since there are different languages, but the mental concepts are the same for all humans. Aristotle's claims were the beginning of a long tradition of thinking about language and thought. It reached its high point among fourteenth-century nominalists, and I will argue here that it is these nominalists' conception of thought and language that Leibniz seems to use as a model for his own thinking on this topic.

The medieval nominalist tradition, epitomized by William of Ockham, took Aristotle to be arguing for a threefold division of language into mental, spoken, and written. The three levels of language are hierarchically ordered so that written languages are based on spoken, and spoken on mental. The mental language is common to all rational creatures and, furthermore, is an ideal language, which contains only simple (non-logical) and logical signs. The simple non-logical signs are all thought to be ontologically significant, and thus the mental language is a true mirror of the world. By analyzing language into its simplest parts, one could uncover what there is in the world; hence the close connection between language, mind, and metaphysics.[5]

In this essay, I will present Leibniz's thoughts on the relation between the world, thought, and language (or logical calculus) as continuous with the fourteenth-century Ockhamistic tradition. I will approach Leibniz through the debate on the status of truth between Descartes and the Cartesians, on one hand, and Hobbes, on the other. It is in an attempt to find an answer to their problem that Leibniz developed a position very close to Ockham's.

There are, of course, also some obvious differences between them. For example, Ockham is an empiricist, and for him the simple non-logical signs are ultimately acquired from sensation, while Leibniz will argue that at least some of the non-logical signs are innate. Leibniz also develops a logical calculus on top of his theory of thought, which Ockham never did. Perhaps this is primarily Leibniz's great innovation. He shows how one can construct an ideal calculus based on the ideal language of thought from which all of metaphysics, morality, and science can be derived. This calculus was his dream project, one he worked on throughout his whole life but never really managed to finish.[6] Disregarding these differences, however, the general structure of Ockham's and Leibniz's theories are the same.

[4] My interpretation of Leibniz is influenced by Jaap Maat 2004, Chapter 5.

[5] See Normore 1985; for a slightly different view, see Panaccio 2004.

[6] See Antognazza 2009, Chapter 1 and 2.

2. HOBBES AND THE CARTESIANS ON TRUTH

Hobbes writes in the fourth objection in the third set of *Objections with Replies* to Descartes's *Meditations*:

> If it turns out that reasoning is simply the joining together and linking of names or labels by means of the verb 'is'? It would follow that the inferences in our reasoning tell us nothing at all about the nature of things, but merely tell us about the labels applied to them; that is, all we can infer is whether or not we are combining the names of things in accordance with the arbitrary conventions which we have laid down in respect of their meaning. If this is so, as may well be the case, reasoning will depend on names, names will depend on the imagination, and imagination will depend (as I believe it does) merely on the motions of our bodily organs; and so the mind will be nothing more than motion occurring in various parts of an organic body. (AT VII, 178; CSM II, 125–26)

The position defended by Hobbes in this passage and proposed as a critique of Descartes's view of the nature of the human mind is at first quite astonishing, since he seems to imply that truth is entirely dependent on names and hence arbitrary, but this is an absurd view—at least Descartes certainly thought so. I will soon get back to his reply to this proposal by Hobbes, but let us first try to understand Hobbes's position a little better.

As is indicated in the above quote, what lies behind this view is his entirely mechanistic conception of nature, including human nature. All our mental ideas or images are nothing but local motions in our bodies, which in turn are caused by motions among external objects.[7] In this sense, our ideas do not resemble the things they are about and only relate to external things as effects to their causes. The ways we imagine the world through our imagination in no way correspond to what the external world in fact is like. I see or imagine the colors of the book in front of me, but there are no colors in the external world; they are a mere figment of my imagination.

We impose names on external things through our understanding of the things, which is dependent on our imagination and our ideas of the external things, which do not "mirror" these things. This naming or labeling is entirely arbitrary. Hobbes writes in *De homine* that "a name or appellation therefore is the voice of a man arbitrary, imposed for a mark to bring into his mind some conception concerning the thing on which it is imposed" (EW IV, 20). The names in turn signify only our ideas and not the things in themselves.

[7] Hobbes, *De corpore*, XXV, 2 (OL I, 318).

A sentence (*propositio*) in spoken or written language is what is true or false.[8] This is a consequence of his view that ideas are wholly caused by the senses and are hence only particular. All universals are names in language that signify more than one idea.[9] This is what Leibniz means when he refers to Hobbes as a "super-nominalist."

The paradigmatic example of a sentence that is either true or false is a categorical sentence with a subject term, a copula, and a predicate term. An example is "A human being is an animal" (*homo est animal*). On his view, such a sentence is true if it is asserted and if the predicate term is contained in the subject term.[10] But truth is wholly a property of language and not of real things; that is, it is a conjoining of a predicate term with an appropriate subject term. It is this reasoning that he assumes in the objection to Descartes above, since truth is, as a consequence, arbitrary and dependent on the imposition of names agreed upon by speakers of the language. In the example above, "A human being is an animal" is true just because it was once decided that "human being" and "animal" are names of the same kinds of ideas.[11]

Let us now return to Descartes's response to Hobbes. Descartes expresses great astonishment about this objection and answers thus:

> The linking together that occurs when we reason, this is not a linking of names but of the things that are signified by the names, and I am surprised that the opposite view could occur to anyone. Who doubts that a Frenchman and a German can reason about the same things, despite the fact that the words that they think of are completely different? And surely the philosopher refutes his own position when he talks of the arbitrary conventions that we have laid down concerning the meaning of words. For if he admits that the words signify something, why will he not allow that our reasoning deals with this something which is signified, rather than merely with the words? (AT VII, 178–79; CSM II, 126)

Arnauld and Nicole in their *Logic or the Art of Thinking* from 1662 repeat the same objection to Hobbes's view. Assuming that Hobbes is right, they stress that since "different nations have given different names to things, even to the clearest and simplest, such as the objects of geometry, they could not make the same inferences about the same truths if reasoning were merely connecting names by the word 'is'" (I, 1, 28).

Their main objection is thus that since spoken and written languages are different and truth is a linguistic property, how come we do not have different truths in different languages? On the face of it, this seems like a powerful argument, but a little

[8] See ibid., III, 7 (OL I, 31).
[9] See ibid., II, 13 (OL I, 19).
[10] See ibid., III, 7 (OL I, 31).
[11] See ibid., III, 8 (OL I, 32). See also the discussion of Hobbes in Leijenhorst 2002.

reflection on the matter shows that it is not. Even though the impositions of words or names are arbitrary, there is nothing in this that implies that truths in Latin are not the same as truths in English. One must of course assume some principle of translation between Latin and English, which itself can be arbitrary, of course, but given this, one has the possibility of translating truths of one language into another. The principles will be of the kind "The Latin word *homo* is in English translatable by 'human being.'" One can then just replace the Latin words with the English and truth is preserved (*salva veritate*).

Hobbes might, however, be accused of assuming a level below the words or names that is common to all thinking beings, namely, a level of ideas. This is at least what Arnauld and Nicole accuses Hobbes of doing when they write that

> the conventions this philosopher [Hobbes] mentions could be nothing but agreements we have made to take certain sounds as signs of ideas in the mind. So if we did not have ideas of things in addition to these names, these conventions would have been impossible, just as it is impossible to make blind people understand what the words 'red,' 'green,' and 'blue' mean by any convention because, lacking these ideas altogether, they cannot connect them to any sound. (I, 1, 27–28)

For Arnauld and Nicole, and for Descartes as well, the distinction between ideas and words is so fundamental that they cannot even begin to understand what it would mean to question it. For there to be a level of names or words that is conventional or arbitrarily imposed, they think, one must assume a level of ideas that is not arbitrary and which is related in a natural or necessary way to the external world.

Not even this argument is in the end successful, however, since it assumes that ideas themselves can be universal, or rather it assumes a principle of compositionality on the level of ideas, which Hobbes is not prepared to accept.[12] He thinks that such a principle is appropriate only in language. There cannot be truths or even sentences (*propositiones*) on the level of ideas, since there are no universals on that level. There is no idea "human being"—there is only, for example, an idea corresponding to the word "Socrates."

3. LEIBNIZ'S RESPONSE

The debate about truth and the relation between things, ideas, and words between Hobbes and the Cartesians was well known to Leibniz. In fact, he even wrote a small dialogue in 1677 entirely devoted to the problem posed by Hobbes's objection to

[12] There is a sense in which Hobbes accepts a principle of compositionality on the level of ideas, but this is contested and not clear. See the discussion of ratiocination in the first chapter of the first book of *De corpore*.

Descartes. He notes that "certain men of learning believe that truth arises from the human will and from names or characters."[13] I will not deal with his discussion of Descartes's view that the truth of things depends on the divine will.[14]

Leibniz is much more sympathetic to Hobbes's thought that truth is a property of names or characters than Descartes or Arnauld and Nicole. He lets his interlocutors say that:

> B: What of it? Thoughts can occur without words.
> A: But not without some other sign. Try, I pray, whether you can begin any arithmetical calculation without numerical signs.
> B: You disturb me very much, for I did not think that characters or signs are so necessary for ratiocination.[15]

By supporting Hobbes this far he has disqualified Descartes's and Arnauld and Nicole's argument to the fact that truths in English and German will be different. Leibniz is in fact strongly supporting Hobbes's notion that reasoning or thinking is calculation or composition of signs or characters. In a marginal note to the same dialogue he writes: "When God calculates and exercises his thought, the world is made." In this respect God's mind and human minds work the same way. He is, however, strongly opposed to the conclusion that Hobbes draws from this view of thought, namely, that truth is arbitrary.

He is sympathetic to Hobbes's claim that there is no similarity between characters and the things they are characters of. A character as a representation or expression of something cannot ground its relation to the object it is about in terms of similarity. He writes, "What similarity do the first elements themselves have with things; for example, o with nothing, or *a* with a line? You will have to admit, therefore, that in these elements at least, there is no need of similarity to things."[16] It is obvious in most cases that there is no similarity between words and things, but similarity still plays a role. Leibniz continues by saying that there is no similarity between words and things "in the words *lux* and *ferens*; even though their compound *lucifer* has a relation to these words, light and bearing, which correspond to that which the thing signified by *lucifer* has to the thing signified by *lux* and *ferens*." He is here implying that there is a deeper structure that can be said to include some similarity, namely, in the composition of two arbitrary words into another and in the actual relation between the things signified by these words and the thing signified by their composition. He explains further:

[13] See L 183.
[14] See Leibniz's note on a letter from Arnold Eckhard in 1677 for his response to Descartes in full (G I, 235).
[15] See L 183.
[16] See ibid., 184.

> I notice that, if characters can be used for ratiocination, there is in them a kind of complex mutual relation [*situs*] or order which fits the things; if not in the single words at least in their combinations and inflection, although it is even better if found in the single words themselves. Though it varies, this order somehow corresponds in all languages. This fact gives me hope for escaping the difficulty. For although characters are arbitrary, their use and connection have something which is not arbitrary, namely a definite analogy between characters and things, and the relation which different characters expressing the same thing have to each other. This analogy or relation is the basis of truth.[17]

Even though words or characters are arbitrary in the sense that some other character could have been chosen in the very beginning to designate the thing it is about, they are not arbitrary after that initial baptism. There is a definite limit to the arbitrariness, according to Leibniz. Once the connection between thing and character has been made, the character will function as a sign of the thing and will carry that function with it in any combination with other characters. The relations among the characters are going to be reflected in the relations among the things they designate. It is in this kind of reasoning that we can see the emergence of Leibniz's account of truth, which by the way is exactly the same as Hobbes's, namely, that a sentence is true if the predicate is contained in the subject. One way of showing that the predicate of a sentence is included in the subject is to show that the extension of the predicate is the same as the extension of the subject, and another way to do it is to show that the intension of the predicate is included in the intension of the subject. This is what the reasoning above implies—namely, that the relation between characters is reflected in the relation among things in the world—and this is how Leibniz thinks the truth of sentences is grounded in reality.

As mentioned, Leibniz, for good reason, takes the problem Hobbes posed to Descartes much more seriously than the Cartesians did. He instead shows that the conclusions Hobbes draws from his reasoning is not justified and that what in fact follows from Hobbes's own argument is a notion of truth that is not at all arbitrary.

As I have indicated in the discussion above, Leibniz seems to take character in a wide sense, including not only spoken and written characters but also mental ones. The relation between words and ideas (or concepts), however, is left unclear in the

[17] See ibid. In the quote Leibniz talks about "characters expressing" things. In his little note called "What Is an Idea?" from 1678, he explains what he means by this. He there talks about ideas as things in our mind that "express" other things. In analogy with the passage quoted above, he writes that "what is common to all these expressions is that we pass from a consideration of the relations in the expression to a knowledge of the corresponding properties of the thing expressed. Hence it is clearly not necessary for that which expresses to be similar to the thing expressed, if only a certain analogy is maintained between the relations" (L 207).

discussed dialogue, and depending on whether Leibniz's criterion of truth should be given an extensional or intensional interpretation, the relation between ideas and the world needs to be clarified. I will therefore try to work out a bit more carefully the picture indicated in the discussion above.[18]

4. LEIBNIZ ON WORDS, CONCEPTS, AND THINGS

Sometime between 1679 and 1681 Leibniz wrote a short text, which in the Academy edition of his works is called *De alphabeto cogitationum humanarum* (On the Alphabet of Human Cognition). It contain an interesting outline of an extremely ambitious project, one that occupied Leibniz throughout most of his life and in relation to which much of his philosophical thought must be seen. It also clarifies the relation between words and ideas (that is, notions or concepts, which in this context Leibniz seems to treat synonymously) by explaining in what sense they are both characters.

He defines the alphabet of human cognition as "a catalogue of primitive notions, or of those we cannot render clearer by any definition."[19] Now, what are these primitive notions? It seems that there are two kinds of primitive notions. I will call them external and internal primitive notions, but as will be apparent from what I have to say later on, they could also be called sensual and innate primitive notions. He first explains that a notion is primitive if it is known without involving other notions; a direct perceptual acquaintance with a color is of this kind. His example is *flavus*, "yellow" or "gold-colored," since there is no other way of distinguishing this notion except by seeing something that is gold-colored.

[18] Maat argues in his book (see Maat 2004, 339–46) that Leibniz changed his mind between the *Dialogue* and *New Essays* and presents an answer to Hobbes in *New Essays* (IV, v, 1) similar to that of the Cartesians. Leibniz insists in *New Essays* that one should look for truth not among words but instead at the level of ideas or concepts. It seems to me that one does not have to read the *Dialogue* as defending a position that truth is primarily something that applies to written sentences, but as I have noted, one could read it as not committing itself to a particular level at which truth properly applies, whether mental or written. It seems in fact to make much more sense to think that the characters he is talking about are primarily mental and that the truth of written characters (or sentences) is parasitic on the mental level. In other passages of the *New Essays* (see particularly IV, v, 11; II, xxi, 5), Leibniz qualifies his view that ideas are the things that are true or false. As will become clear in the next section, there is such an intimate relation between ideas (or mental signs) and signs in general that on many occasion he does not seem to distinguish clearly between them.

[19] "Alphabetum cogitationum humanarum est catalogus notionum primitivarum, seu earum quas nullis definitionibus clariores reddere possumus" (A VI, iv, 270). In Maat 2004, 310, it is suggested that Leibniz is here a bit careless in his use of terminology, since he uses "notion" and not "symbol," but it seems to me that by suggesting this Maat misunderstands what is going on in the text. Leibniz should here be talking about notions (or ideas), but of course he, at least on my reading of him, could have used "symbol" as well, since notions are symbols in the language of thought. See also the text translated in Dascal 1987, 181–84, for an explanation of the relation between notions and characters.

Aureus, "gold," is on the contrary not a primitive notion, since it can be given a definition and a lot of other notions must be involved for us to know that something is gold.[20]

There is, Leibniz thinks, infinitely many external primitive notions of this kind, since there are infinitely many sensory qualities such as colors. However, most of them can be generated from a few primitive notions and, as he says, be "expressed by some relation" to the selected few.[21] Even though there are lots of external primitive notions, there are only a few internal primitive notions.[22] To explain what he means by these internal primitive notions, he uses an example of a schoolboy who has the ability to learn everything his teacher tells him. This is possible because "the seeds of all these notions are already in him, and then from the few notions which the boy already has, the infinite, which the teacher explains, are necessarily composed." Leibniz also gives examples of what he could derive from these internal primitive notions—for example, mathematics, morality, and metaphysics.[23]

As is obvious from the above discussion, Leibniz is talking about two kinds of simple notions. Simple notions are primitive in the sense that they cannot be separated into yet simpler notions. One kind of simple notion is an external or sensual notion, and another kind is an internal or (which should also be obvious from what is said above)

[20] "Quaecunque nullam aliam habent notam qua cognoscantur, et ab aliis distinguantur, praeter unum simplicem actum sensus, earum notions haberi possunt interim pro primitivis: ita notio flavedinis haberi potest pro primitiva, neque an aliquid flavum sit alia ratione quam oculi in rem conjectu simplici dignoscitur, at notio auri non est primitiva. Nam aurum dignoscitur colore, pondere, sono aliisque modis" (A VI, iv, 270).

[21] "Tametsi notions primitivae sint infinitae (uti exempli causa infiniti sunt colores), sufficit tamen adhiberi ex unoquoque genere paucas, et quadam ad has relatione exprimi caeteras" (A VI, iv, 271). It is unclear exactly how this reduction will be done. He writes in *New Essays* (III, iv, 4–7) that sensory notions (ideas) are only simple because "we have no way of analyzing them into the elementary perceptions that make them up." They do have real definitions, which allows us to reduce many of them into a few basic ones; that is, the real definition of "green" will include "blue" and "yellow." Perhaps this is what he means by his talk about reduction in *De alphabeto cogitationum humanarum*.

[22] "Multitudo notionum primitivarum repertitur in specialibus qualitatibus quae sensibus externis objiciuntur; sed in qualitatibus quae interno tantum sensu percipiuntur, aut pluribus sensibus communes sunt, paucae sunt primitivae notiones" (AVI, iv, 270).

[23] "Hujus rei manifestum documentum dabo. Pueri qui pauca experti sunt, nihilominus pleraque omnia intelligere possunt, quae praeceptor prudens ipsis explicat, tametsi ille ipsis nihil ostendat, sed tantum describat. Necesse est ergo omnium illarum rerum notiones jam latere intra ipsos, adeoque oriri ex paucis illis quas jam experti sunt. Nimirum puer ingeniosus et attentus licet paucissima expertus, perfecte intelligere potest, praeceptorem de mathematicis, moralibus, jurisprudentia, et rebus metaphysicis disserentem, intelliget inquam, tunc saltem cum ipsi proponuntur, tametsi retinere quae opus et ad usum transferre, ob experientiae defectum non possit. Sed nobis sufficit praeceptorem ab eo intelligi, ut appareat, omnium illarum notionum semina jam in ipso esse, ac proinde ex paucis illis notionibus quas puer jam habet, infinitas illas, quas praeceptor explicat necessario componi" (ibid.).

innate notion.[24] These simple notions can be combined into complex notions, and this is what is done when we humans think. For some sciences we have the resources already in us, and for others we also need external notions. It is no coincidence that mathematics and metaphysics are among the sciences that can be known purely on the basis of internal notions.[25]

In *De alphabeto cogitationum humanarum*, he goes on to note that the primitive notions can each be assigned a character (or name/term), and once this is done we have the basic alphabet of a universal and ideal language, which, if both external and internal primitive notions are included, includes in it all sciences: "It follows that the ideas contained in most sciences can be designated by this language or characters."[26] He explains it in detail in the following way:

> Suppose the characters of arbitrary primitive notions are a, b, c, d etc. And suppose some sentence is to be proved of which the subject and the predicate are resolved into some notions consisting of these primitive ones. I assert that this sentence

[24] In *Nova Methodus* Leibniz distinguishes between simple and complex terms and says that simple terms are sensible qualities; see L 89. In *New Essays* (III, 9, §§ 4–7 (279)), he says that simple terms do not have nominal definitions and this is why they are simple. The same view is outlined in the *Meditationes* from 1684 and in the *Monadology*; see L 291–95 and 646. In his preparatory remarks to the *New Essays*, Leibniz writes: "Mais l'idée estant prise pour l'objet immediant interne d'une notion, ou de ce que les Logiciens appellent un Terme incomplexe, rien ne l'empeche d'estre toujours en nous, car ces objets peuvent subsister, lors qu'on ne s'en apperçoit point. On peut encor diviser les idées et les verités, en primitives, et derivatives: les connoissance des primitives n'ont point besoin d'estre formées, il faut les distinguer suelement; celles des derivatives se forment par l'entendement et par le raisonnement dans les occasions" (A VI, vi, 12). Later on the same page, he notes that "les verités primitives (telles que le principe de la contradiction) ne viennent point des sens ou de l'experience et n'en sçauroient estre prouvées parfaitement, mais de la lumiere naturelle interne, et c'est ce que jeveux, en disant qu'elles sont nées avec nous."

[25] As I will make clear later on, there are different kinds of primitive notions, namely, the non-logical (or so-called categorematic or meaningful) ones, which are the ones I have so far been talking about, and the logical (or syncategorematic) ones. Some of the non-logical notions and all of the logical ones are innate. Leibniz also sometimes talks about primitive truths (see, for example, note 21 above), such as the law of non-contradiction. In *New Essays*, he distinguishes between truths of reason and truths of fact (IV, ii, 1). Truths of reason are logical (or formal) truths and can thus be described as combinations of logical notions (signs) with some arbitrary sign such as A, B, or C in place of the non-logical notions; that is, their truth is independent of what non-logical notion (sign) is put into the complex expression. The example of a truth of fact he gives in the mentioned passage from *New Essays* is "I think, therefore I am." This is a truth of fact because it is dependent for its truth on the non-logical notions (signs) involved in it.

[26] "Hinc sequitur irrefragabiliter, si quis notiones primitivas quas habet ille puer redigat in catalogum, et cuilibet earum ascribat characterem qualemcunque aut literam, eum notiones omnes ex his compositas id est notiones omnes quae puero illi sine demonstratione oculari novae cujusdam qualitatis sensibilis explicari possunt, posse vocabulis ex his literis sive characteribus

> can be demonstrated without using any other notions than these: a, b, c, d, etc. and those that are composed of these, and I say that the sentence can be proved by a mere calculus. The character of the subject is namely resolved all the way to the primitive characters, and similarly with the characters of the predicate; it is necessary, if the sentence is universal, that all the characters of the predicate are contained in the characters of the subject. For if the predicate inheres in the subject (for example if uniformity inheres in every circle), it is necessary that whatever is conceived in the predicate can also be conceived in the subject. For everything, which is conceived in the predicate, is contained in the primitive notions, which are conceived in it [the predicate], therefore all these primitive notions can also be conceived in the subject, or are contained among the primitive notions of the subject.[27]

A little further down he adds:

> Therefore, if someone is certain to have encompassed the more familiar and the better parts of the Alphabet, then he can be certain that the better parts of the truths he may need can be proved simply by calculation.[28]

The logical calculus or the universal characteristics thus starts with a set of basic meaningful (significative) primitive characters (or terms) and from these, presumably together with some logical characters (more about this later), all scientific, moral, and metaphysical truths can be expressed. In the same way, any truth can be analyzed down

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compositis designare. Et cum pleraeque scientiae puero proponi possint sine demonstratione oculari novarum qualitatum sensibilium (tametsi ad memoriam et praxin demonstratio ocularis subinde requiratur) sequitur ideas plerisque scientiis contentas hoc sive linguae sive characteris genere posse designari" (A VI, iv, 271).

[27] "Sint characteres primitivarum notionum quotcunque a, b, c, d etc. Et sit propositio quaedam demonstranda cujus subjectum et praedicatum in aliquot ex his notionibus primitivis resolvuntur. Pono autem propositionem hanc demonstrari posse nullis aliis adhibitis notionibus quam his ipsis: a, b, c, d etc. et quae ex his componuntur, ajo solo calculo propositionem posse demonstrari. Resolvatur scilicet subjecti character usque ad characteres primitivos, et praedicati character etiam; necesse est si propositio est universalis omnes characteres praedicati contineri in characteribus subjecti. Nam si praedicatum inest subjecto (exempli causa si omni circulo inest uniformitas), necesse est quicquid in praedicato concipitur etiam in subjecto concipi posse: jam omne quod in praedicato concipitur notionibus primitivis quae in eo concipiuntur continetur, omnes ergo notiones primitivae istae etiam in subjecto concipi possunt, sive inter notiones primitivas subjecti continentur" (A VI, iv, 273).

[28] "Itaque si quis certus sit se notiones primitivas usitatiores plerasque Alphabeto complexum esse, hunc certum est plerasque veritates quibus opus esse possit, solo calculo demonstrare posse" (ibid.). A translation of this passage can also be found in Maat 2004, 312.

from its complex expression to its primitive components, and once this is done the connection between subject and predicate will be obvious.[29]

In the quote above, he also expresses his principle of truth (the *inesse*-principle) in terms of conceivability; that is, some universal sentences is true if the conception of the predicate is in the conception of the subject. He thus stresses the intension of the terms as opposed to their extension, and by doing this he obviously stresses their mental side. In *New Essays*, he explains the connection between intension and extension in the following way:

> For when I say *Every man is an animal* I mean that all the men are included amongst all the animals; but at the same time I mean that the idea of animal is included in the idea of man. 'Animal' comprises more individuals than 'man' does, but 'man' comprises more ideas or more attributes: one has more instances, the other more degrees of reality; one has greater extension, the other the greater intension. (IV, xvii, § 8 [486])

Even though Leibniz does not seem to commit himself in this passage, in most cases he seems to prefer conceivability and not extension.[30] In this way he seems to wants to stress that truth belongs to the level of ideas or notions.

If we recapitulate the discussion about truth in relation to Hobbes above, we are now in a better position to evaluate that discussion and to outline the relation between words, ideas, and things. The set of primitive (non-logical) notions or ideas that is given in the beginning, before any thinking or calculating, is, it seems to me, a reflection of what there is in the world. Hence, together with the logical notions they are the basic constituents not only of our language, calculus, or minds but also of the metaphysical structure of the world. Only if this is true is there any substantial meaning to Leibniz's claim that through the calculus we can derive all the truths of any science. The calculus mirrors the metaphysical structure of the world, and in our analysis of complex sentential structures into their basic primitive components we can get down not only to the basic primitive notions but also to the basic primitive entities in the world, or, as

[29] The procedure for how complex truths are generated and how the analysis of complex expressions into its simple components are done is presented in an article from 1679 that in English translation is called "On Universal Synthesis and Analysis or the Art of Discovery and Judgment." See L 229–33.

[30] Lenzen (2004, 11) argues that Leibniz in the quote from *New Essays* above identifies extension and intension of a term. I do not see that such a conclusion is warranted at all. In fact, it seems obviously wrong to say that a term's intension is identical to its extension. The only way this can be done is if one thinks that a term's extension is not just the set of all existing individuals but also all possible individuals. To my knowledge Leibniz never says this anywhere, and it would go against many things he says about possible worlds and possible individuals.

he explains in *New Essays*, "quite often a 'consideration of the nature of a thing' is nothing but the knowledge of the nature of our mind and of these innate ideas, and there is no need to look for them outside oneself" (I, I, 21).

When Leibniz says that the relation among the characters is reflected in the relation among things, he means that characters reflect the relation among ideas, which in turn is, on the most primitive level, a reflection of the things that there are in the world. In this reasoning we can also detect Leibniz's own nominalism, namely, the set of primitive (non-logical) notions we are left with. All of this is going to be metaphysically significative.[31]

In light of this we must realize that it is hardly possible, on Leibniz's view, to make a distinction between the mental level and the level of the logical calculus. Both non-logical and logical characters of the calculus will be mirrored by or identical to the primitive notions in our minds, and thinking and calculating are in this respect the same thing.

5. THE LOGICAL CALCULUS

In this section I would like to give a more precise presentation of how Leibniz thinks what he has said in *De alphabeto cogitationum humanarum* relates to what he says in some of his more explicit logical works. Beginning with the very early but famous *De arte combinatoria* (1666), Leibniz worked throughout his whole life to develop a satisfactory logical calculus. In the work *Generales inquisitiones de analysi notionum et veritatum* from 1686, he gives his most worked-out version of the calculus. I will concentrate my discussion on this work.

He begins with a division of terms between those that are "integral or perfect" and those that are "partial or imperfect." An integral term can without addition function as the subject or predicate of a sentence, while a partial term needs some addition (for example, a particle) to be able to function in this way.[32] I will henceforth ignore partial terms. An integral term is furthermore subdivided into four types of terms: primitive, simple, derivative, and composite.[33]

[31] In his paper from 2004, Rauzy argues for an interpretation of Leibniz's nominalism that puts him in line with a long tradition of medieval nominalists. It seems to me that he is very much on the right track. See my presentation of Ockham below.

[32] "Terminus est vel integralis sive perfectus, ut Ens, ut Doctus, <ut idem vel similes ipse A, qui scilicet potest esse subjectum sive praedicatum propositionis, licet nihil accedat>; vel est partialis sive imperfectus, ut: idem, similes; ubi aliquid addendum est (nempe: ipse A) ut integer terminus exurgat" (C 357). The translations in this section of the paper are from P.

[33] See C 358–59.

A primitive integral simple term is, in the terminology of the *Generales inquisitiones*, an unanalyzable term.[34] He seems to run together primitive and simple into these basic unanalyzable terms of the language he is constructing. There are other kinds of simple terms as well, namely, simple particles (what he also calls syncategorematic terms), that is, logical terms.[35] His example is "in." It seems safe to assume that unless these kinds of terms are combined with an integral or a partial term, they cannot function themselves as subject or predicate; that is, they have no signification in themselves. Although Leibniz's terminology is not entirely clear, it seems that these terms are the only simple ones in the sense that they are unanalyzable. His starting point in this work is thus exactly the same as in *De alphabeto cogitationum humanarum*, that is, the calculus assumes from the beginning some primitive logical and non-logical terms.

The simple terms are then combined in some way or another to form complex terms. There are several kinds of complex terms, according to Leibniz. The two most important are the ones that are directly composed, which he calls "primitive composed" terms or simply composed, as for example "AB," and those that are derivative, which are combined with a particle, as in "A in B."[36] Particles can also be complex, according to Leibniz. The example he gives is "with-in" (*cum-in*), which is two particles put together without the mediation of integral or partial terms (or, as he also calls them, categorematic terms).[37]

Before going on to develop the actual calculus, Leibniz explains further his view of the primitive simple terms, or those to be assumed for them before we have a firm grasp of them.[38] In *Generales inquisitions* he divides the primitive integral terms in the same way as he did in *De alphabeto cogitationum humanarum*, namely, into internal and external. As examples of the internal ones he gives "term" (*terminus*), "entity"

[34] "Habemus igitur primo Terminos <integrales> primitivos simplices irresolubiles, vel pro irresolubilibus assumtos, ut A" (C 358).

[35] "Particulas simplices seu syncategoremata primitiva, ut: In" (ibid.).

[36] See C 358–59.

[37] "Quarto Particulas composites ex meris particulis simplicibus, sine Termini (categorematici) interventu, ut: cum-in" (C 358).

[38] In a short work written sometime between 1679 and 1686 called *Introductio ad Encyclopaediam Arcanam*, Leibniz expresses some skepticism about our (that is, humans') ability to find out what the primitive concepts are, since we cannot quite understand how things flow from the mind of God. He writes: "Non videtur satis in potestate humana esse Analysis conceptuum, ut scilicet possimus pervenire ad notions primitives, seu ad ea quae per se concipiuntur" (C 514). After having said this, he goes on to give a list of these kinds of concepts nonetheless. The examples he gives there are "possible" (*possibile*), "being" (*ens*), "existence" (*existens*), "power" (*potens*), "action" (*agens*), "cognition" (*cognoscens*), "willing" (*volens*), "perceiving" (*percipiens*), "patient" (*patiens*), "duration" (*durans*), "matter" (*materia*), "place" (*locatum*), "extension" (*extensum*), "termination" (*terminatum*), "formation" (*figuratum*), "touching" (*tangens*), "closeness" (*vicinum*), "distance" (*distans*), and some others (C 514).

(*ens*), "existence" (*existens*), "individual" (*individuum*), and "I" (*ego*).[39] To these he adds external simple primitive terms, which he says are "all those confused phenomena of the senses, which we perceive clearly but cannot explain distinctly, or define by other concepts, or designate by words."[40] The color terms are examples of such primitive simple terms. We can say much to a blind person about the extension, intensity, and shape that accompany colors, but beside these distinct notions there is also something confused in colors, something the blind person cannot conceive because she cannot see them for herself. A full catalogue of simple primitive terms thus contains terms related to both internal and external concepts or notions.

Having made these comments on the primitive terms, Leibniz moves on to the second part of the *Generales inquisitions*, which contains a development of the actual calculus. He here begins by defining the notion of "coincides" or "contain" (he seems to use the two interchangeably). "A coincides with B" if A and B can be substituted in place of each other without the loss of truth or if, in analyzing each of the two terms, the same term appears on both sides. From this it follows that "If A coincides with B, then B coincides with A."[41] This is of course the same as saying that if A and B are identical, then they coincide.

After this he goes on to introduce "subject" and "predicate" and gives his analysis of sentences in terms of "coincidence," that is, "A is B" is the same as "Every A and some B coincide," or "Some A is B" is the same as "Some A and some B coincide."[42] He thus gets the following list of the traditional categorical sentences:

A—"Every A is B" = "Every A and every B coincide"
E—"No A is B" = "Every A and every B do not coincide"
I—"Some A is B" = "Some A and some B coincide"
O—"Some A is not B" = "Some A and some B does not coincide"

I will not here give a presentation of the details of the whole calculus that is developed—it has been done by many others—but let me just note something Leibniz stresses at the end of the work. In the very last sentence, he notes that in "these few propositions, therefore, the fundamentals of logical form are contained."[43] The principles he refers to

[39] See C 360.
[40] "Sunt etiam Termini primitivi simplices omnia illa phaenomena confusa sensuum, quae clare quidem percipium, explicare autem distincte non possumus, nec definire per alias notions, nec designare verbis" (C 360). In the earlier work *On Universal Synthesis and Analysis*, he argues that the primitive concepts are either distinct or confused; color concepts are confused. This division corresponds to the distinction between internal and external as I have made it. See L 230.
[41] See C 362.
[42] Ibid.
[43] "His ergo paucis [omnis] formae fundamenta conctinentur" (C 399).

here are given earlier in the text. There are nine of them, and they state, for example, that coincidental terms can be substituted for one another (the *salva veritate* principle mentioned above), that AA = A, and that double negation can be gotten rid of; there are also some principles about truth, and then comes the most substantial principle, which define his notion of inference. He writes:

> That a proposition follows from a proposition is simply that a consequent is contained in an antecedent, as a term in a term. By this method we reduce inference to propositions, and propositions to terms.[44]

Here he models his concept of a logical consequence on his notion of truth, that is, that a sentence is true if the predicate is contained in the subject. Analogously, then, a consequence is valid if the consequent is contained in the antecedent. Truth is expressed in terms of containment, and validity is expressed in the same way. Consequences are like sentences, the only difference being that the terms involved are more complex—a sentence is defined as a complex term analyzable into smaller parts (that is, into logical and non-logical simple terms). Hence a consequence is analyzable into sentences, then into terms, and finally into primitive simple terms. This is the thrust of Leibniz's logical calculus and what he means by saying that we can build all of science and metaphysics from these simple primitive terms.

6. LEIBNIZ AND OCKHAM

Leibniz himself always refers to the fourteenth-century logician and mystic Raymond Lull's *Ars magna* as a model for his own calculus.[45] But as Jaap Maat has shown, Leibniz is also indebted to the universal-language tradition epitomized by Delgarno and Wilkins.[46] Maat notes as well that the whole universal-language tradition in the seventeenth century is indebted to the late medieval logical tradition, but he makes no attempt to substantiate this claim. I will in this section show that there are great affinities between Leibniz and Ockham. It boils down to the claim that Leibniz simply accepts Ockham's notion of a mental language and then builds his calculus on top of it. He is also greatly helped by Hobbes's insistence that thinking is a form of calculation or combinatorics.[47]

[44] "Octavo propositionem ex propositione sequi nihil aliud est quam consequens in antecedenti contineri ut terminum in termino, atque hac methodo reducimus consequentias ad propositiones, et propositiones ad terminos" (C 398).

[45] See *De arte combinatoria* (A VI, i, 192–94).

[46] See Maat 2004.

[47] See, for example, *De arte combinatoria* for a reference to Hobbes (A VI, i, 194).

As I have mentioned, Ockham takes his starting point in Aristotle's division between the world, thought, and language, but for Ockham this is a division between the world and language. There is thus a threefold division of language into mental, spoken, and written. Ockham is furthermore an empiricist and the significative parts of language will ultimately be based on what there is in the world and our perceptions of these things. The world roughly speaking consists of individual substances and individual qualities.[48]

We describe the world with the help of language, and every language consists of two kinds of signs, categorematic (non-logical) and syncategorematic (logical) signs. Categorematic signs (terms or names) have signification and are ultimately derived from our encounter with the world. Syncategorematic signs do not have signification unless they are combined with categorematic signs to form complex terms or sentences. Ockham calls the mental signs concepts (*notitia*) or acts of the mind or intellective soul. They are, ontologically speaking, qualities of the soul, which he thinks is a substance.[49]

Ockham further divides categorematic signs into absolute and connotative signs. In the *Summa logicae*, he writes:

> Purely absolute names are those which do not signify one thing principally and another—or even the same thing—secondarily. Rather, everything which is signified by the same absolute name is signified primarily [and] . . . properly speaking, such names have no definition expressing the meaning of the term [*quid nominis*]. For strictly speaking, a name that has a definition expressing the meaning of the name has only one such definition, and consequently no two sentences which express the meaning of such terms are so different in their parts that some part of the first sentence signifies something that is not signified by any corresponding part of the second. . . . [A] connotative name, however, is one which signifies something primarily and another thing secondarily. Such a name has, properly speaking, a definition expressing its meaning [*quid nominis*].[50]

Absolute terms thus do not have definitions and are in a sense primitive, while connotative terms have definitions. As a consequence, connotative terms will have to be complex, since they must have parts to which the parts of a definition can refer.[51]

The traditional picture of Ockham's mental language sees it as an ideal language consisting only of the basic absolute categorematic terms (or concepts) and the

[48] See Spade 1999.

[49] See Lagerlund 2004 for a discussion of Ockham's view of the human soul.

[50] See *Summa logicae*, I, 10.

[51] There is a debate in the scholarly literature about whether all connotative terms have nominal definitions or whether there also are simple connotative terms. See Panaccio 2004, 63–74.

syncategorematic terms. From this core, all other terms and sentences of the language can be built. All the parts of this language would be ontologically significant and correspond to the basic constituents of the world. It would contain no synonymy, declinations, or conjugations.[52]

In Ockham's view, we humans think in the mental language in the same way we speak and write in our natural languages, that is, we combine terms into complex significative structures. All terms in our written and spoken languages are conventionally instituted to have the same function as the syncategorematic terms of the mental language, which means that a word signifies the same thing as the mental concept it is subordinated to. The mental language thus gives us a semantics for the written and spoken languages.

It is easy to see from this short description of Ockham's theory of the mental language that it is very similar to Leibniz's description of thinking. On both views, thinking is a matter of combining concepts or ideas into complex structures such as sentences. Leibniz also makes the distinction between categorematic and syncategorematic signs; that is, categorematic signs are the significative (non-logical) signs, while syncategorematic signs are the logical signs that work together with categorematic signs to form complex structures such as sentences and consequences.

Leibniz also, like Ockham, singles out a group of special categorematic signs, simple and primitive, that together with the syncategorematic are enough to form all possible truths. One important difference, of course, is that Leibniz is not an empiricist and hence some of his primitive terms or concepts will be innate. Both Leibniz and Ockham think that the syncategorematic signs are innate.[53] The structure of the theory is disregarding this identical.

Initially it might seem strange that there is such an agreement about these things between Ockham and Leibniz, particularly if one thinks of the empiricism defended by Leibniz's contemporaries Locke and Hume. Truth seems to be a property of language, as Hobbes had argued, and not something that properly speaking is applicable at the level of ideas, which are psychological entities and hence private. Ockham's empiricism is very different; even though he, like Leibniz, holds truth to be a property of language, it is a property of the mental language. For Ockham, concepts or qualities of the mind are not private psychological entities but instead logical. It is this feature that allows for the affinities between him and Leibniz.

According to Ockham, our minds are naturally fitted to acquire the absolute categorematic signs of the mental language. When we are in the right relation to an object it acts on our mind through an intuitive cognition, causing an act or signs of itself in our

[52] See, for example, Normore 1990.

[53] See Panaccio 2004, 145–58, for a discussion about this in relation to Ockham.

minds. The sign will then co-vary with the object, and no other object could have caused that particular sign. This process will be the same for all humans, and it is because of this necessary (causal) relation between objects and their signs in the mental language that these signs function like Leibniz's innate ideas or notions. The theory of the mental language is not a psychological theory; it is a logical theory much like Leibniz's theory of thought.

7. CONCLUSIONS

In this paper, I have argued that one should place Leibniz in a long, basically medieval tradition of thinking about logic, language, and the nature of thinking. The predominant theory of thinking in this tradition is a theory of mental language—a theory originated by William Ockham in the early fourteenth century. Leibniz's own formulation of this theory becomes apparent if we look at how he tries to solve the problem about truth in the debate between Hobbes and Descartes. He then formulates a view that sees truth as a linguistic property, but without making truth arbitrary, as Hobbes had argued, since the language in which all truths are formulated is an ideal language of thought. He then fills in the details of this theory in a number of smaller works on universal languages and universal characteristics. The theory of logic he wants to develop is based on this ideal/logical language of thought, and the actual calculus must be seen as an attempt to formalize this language.

In Leibniz's way of thinking, the logical calculus, the mind as computing these calculations, and the structure of the world become intimately connected. The non-logical innate notions in our minds give us the alphabet or the content for the logical calculus, which in turn is given by the logical innate notions, and with these God-given tools we can calculate the true metaphysical structure of the world.

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6

THE CRITIQUE OF PURE REASON AS METAPHYSICS

Olli Koistinen

INTRODUCTION

The Critique of Pure Reason (hereafter the *Critique*) is a difficult work. The first source of difficulty lies in Kant's argumentation, which prima facie may look a bit convoluted in places. However, it also seems that the *Critique* does not explain well enough what its aim is and how it should be read. In this chapter, the aim is to consider the structure of the *Critique* from the viewpoint of metaphysics. The idea is that the *Critique* is a work on metaphysics when metaphysics is conceived the way it is done in Kant's lecture notes on metaphysics. I have two aims here: first, to illuminate the science of metaphysics as Kant conceived it and to see what metaphysical questions are possibly answerable, and second, to shed light on the structure as well as the content of the *Critique* by looking at it as a work that is intended mainly to solve the problems Kant took to be metaphysical. It is sometimes very difficult to identify the questions to which great philosophical works give the answers, and I hope this essay helps in highlighting the questions the *Critique* is intended to answer.

Kant's attitude toward metaphysics is ambivalent. It is true that he reports having fallen in love with metaphysics, but it is not quite clear whether he really loved it.[1] One can, Kant says, fall in love with appearances, but appearances cannot form the true object of love, and before developing his own substitute for metaphysics, he characterized it as an empty and impossible battle. In the *Critique*, it seems to me Kant tries to reveal the true nature of the doctrine he had in his youth fallen in love with.

The love affair that Kant in the 1760s considered unhappy was not the only reason he was engaged in metaphysical investigations. He also thought that metaphysics is of the highest importance—even the happiness and well-being of humankind is dependent on metaphysics. Moreover, Kant saw metaphysical questions as unavoidable for human reason.

[1] Kant (1992, 354); that appearances cannot be loved, see Kant 2005, 24.

Kant had high hopes for metaphysics. Rightly conceived, metaphysics and logic are unlike the natural sciences or mathematics in that they can, in a way, be completed.[2] The reason for this optimism was that for Kant the proper object of metaphysics as well as that of logic is the human understanding:

> Metaphysics is special in that one can wholly complete it, one can measure out the faculty of reason according to its sources, extent, and boundaries. Metaphysics cannot hope to make discoveries into the nature of things, rather reason must teach everything; I can thus settle which concepts lie in reason independently of experience—it is here as with a grammar, which can be complete, but not a lexicon, because during the time the author is writing it, new words will be made again. (M 141)[3]

In section 1, I present Kant's critique of the rationalists' metaphysics, with special emphasis on the mathematical model. Section 2 focuses on Kant's views on metaphysics on the basis of the lecture notes. What I consider to be the most important part of this essay is section 3, where it will be shown that the heart of the *Critique*, "Transcendental Analytic," has a structure that closely resembles the structure of metaphysics presented in the lecture notes. The "Transcendental Aesthetics" of the *Critique* and its corollary, transcendental idealism, are treated in section 4 as being necessary conditions for any successful metaphysics. In section 5, Kant's negative metaphysics, presented in the *Critique*'s "Transcendental Dialectic," is treated, and the ways of paralogisms and antinomies are considered. Section 6 is devoted to Kant's own explicit views about metaphysics in the *Critique*. In section 7, a concrete metaphysical problem, the problem of the ontological structure of an individual (a problem that is still much in focus), is evaluated through a Kantian viewpoint. The aim is to show with the help of this example that perhaps there is in contemporary analytic metaphysics room for a Kantian perspective. In the concluding section, Kant's transition to the metaphysics of morals is briefly considered.

1. MATHEMATICAL MODEL AND THE CRITICISM OF THE RATIONALISTS

At several places, Kant claims that metaphysical questions are not avoidable. They are questions that human reason is destined to create, and no one can be without metaphysics. Even those who despise metaphysics take, in so doing, an attitude toward

[2] See M 136.

[3] See also *Critique* B 22.

metaphysical questions. Metaphysical questions are old. Before any experimental science was developed, people tended to ask metaphysical questions that centered on the following three matters: whether there is an author of the world, what happens to us after our bodily destruction, and whether human beings are free in the sense that their actions do not follow the laws of empirical nature.

Kant took seriously the term "metaphysics." He was not satisfied with the common explanation of the origin of that term as being given to certain investigations with which Aristotle busied himself after the investigations on physics.[4] Metaphysics has always meant meditation on questions that are not settled by empirical means—these questions are beyond physics. Thus metaphysics cannot be an empirical science but should by necessity be seen as an a priori enterprise.

That metaphysics is not an empirical science but should proceed through a priori reasoning immediately raises questions about its possibility. Metaphysicians should somehow, through some method other than observation, be able to see how things are. One obscure but rather natural possibility is that we possess in addition to our sensory knowledge a kind of intellectual intuition through which we see the ultimate nature directly. Kant attributed this kind of method to Plato and his school but found it poor, even incomprehensible.[5]

If metaphysics cannot rely on any intuitive knowledge about the reality that lies beyond experience, it is rather natural for a metaphysician to consider other a priori sciences and try to imitate them. Kant saw such an a priori science in mathematics, especially in geometry, and he also realized that metaphysicians had been imitating the geometrical method, which Kant believed to be the reason for what he took as the disastrous situation of metaphysics. Kant's view was that mathematics is indeed a synthetic a priori science. For example, in geometry we learn about the properties of space without any observation. The possibility of such synthetic a priori knowledge is, of course, a question worth pondering. For Kant a synthetic judgment is one where the predicate is not included in the subject, so one cannot know such a proposition by analyzing the subject. The knowledge of a posteriori synthetic judgments comes about through observation. The knower sees, as it were, that the predicate not included in the subject is true of it. However, Kant's definition of synthetic a priori judgments excludes such an observation-based method of verification.[6]

Kant's view that metaphysics is not allowed to imitate mathematics is based on an important distinction between real possibility and logical possibility. According to Kant, a concept has meaning only if it can be given a sensible interpretation or, in

[4] M 419–20.
[5] M 122–23.
[6] *Critique* A7/B11-A13-B26.

Kant's technical terminology, sensible intuition. The consistency of a concept does not show that it is possible that something falls under the concept. To simplify matters a bit, for it to be possible that there is an object corresponding to the concept, the predicates involved in the concept must be able to have a non-conceptual representation. If that is not the case, then it may well be that the concept is by necessity empty. For example, there is nothing contradictory in the definition of a spirit as an immaterial thinking substance. However, such a definition may be a definition of an impossible thing. In such a case, Kant would say, the concept cannot have objective reality.[7]

The a priori intuition of space is what rescues geometry, because that intuition gives content and significance to geometrical definitions. For example, when a triangle is defined as a figure closed by three lines, we can with the help of our spatial intuition convince ourselves of the possibility of such a figure. Geometry proceeds through the construction of concepts in such a way that any construction has to face the tribunal of spatial intuition. Thus, the real possibility of a triangle results from our being able to form an intuition of a closed figure composed by three lines. In a certain sense, the intuition exhibits the matter in which the form given by the definition is realizable. But if we define a spirit as an immaterial substance, then our incapability of forming an intuition of anything corresponding to that definition leaves it open whether the form given by that definition can be realized. Logical consistency of a definition is not enough to show the real possibility of the thing defined.[8]

In criticizing the philosophers imitating the mathematical model, Kant had in mind, besides Plato, the philosophers from the rationalistic camp, such as Leibniz and Wolff. Their fault lies in taking certain plausible-looking principles as their starting point without an attempt to prove them and also extending their scope beyond the field of experience. The method of philosophizing cannot proceed from the construction of concepts because philosophical definitions lack intuitions from which to proceed; another way of saying it is that philosophical concepts lack interpretations.[9]

Kant labeled the philosophers following the mathematical model dogmatists. What suffices for a dogmatist is that the philosophical system is free from contradictions and that the basic principles on which her or his system rests are somehow persuasive or acceptable. However, these basic principles are never taken under critical scrutiny by the dogmatist—in fact, it seems that Kant would have said that the dogmatists were even unable to conceive how their basic principles, such as the principle of sufficient reason, could be justified by appealing to something outside those principles themselves. If Kant is right, it is no wonder that there was, in his time, an

[7] *Critique* A156/B195 and B308.

[8] *Critique* B268.

[9] See, for example, *Critique*, "Transcendental Doctrine of Method," section "The Discipline of Pure Reason in Dogmatic Use."

abundance of different internally consistent but mutually inconsistent philosophical systems. Think, for example, of the systems of Leibniz and Spinoza. Whereas Leibniz argues that the ultimate constituents of reality, in a sense all that there is, are metaphysical mental points or monads, Spinoza tries to prove *more geometrico* that the world is constituted by only one infinite substance, which is both extended and thinking; finite things are this infinite substance's modifications. In addition to the tension that prevails between different dogmatist systems of philosophy, there also is a tension between dogmatism and empiricism. By and large, the empiricists deny the possibility of all synthetic a priori knowledge, and this leads to skepticism. The conflict between empiricists and dogmatists is dramatically presented with the help of the antinomies of pure reason. In such an antinomy the thesis is presented by the dogmatist and the antithesis by a skeptic or an empiricist. The arguments both parties are let to present seem persuasive even though their conclusions appear to contradict each other. So it is clear that there are certain false presuppositions in their arguments.

What seems to be Kant's main worry about the dogmatists is that the world may fail to conform to their philosophical systems. To construct philosophical definitions and to base metaphysical theories on them without the intuition test is to build consistent fairy tales. However, there seems to be one escape for a traditional metaphysician—she or he can point to the ontological argument as providing a way of proving the existence of something (and so, of course, the possibility of an existent) merely from the definition, even though no sensible interpretation of such an existent is available. Most dramatically, this kind of metaphysics is visible in Spinoza's *Ethics*. What was distinctive to Spinoza is that he tried to argue that his philosophical theory holds of necessity. Spinoza's necessitarianism involves the thesis that his only substance necessarily exists and that thereby his whole structure of definitions gains objective reality. So it comes as no wonder that Kant was very eager to attack the ontological argument, in which the existence of God is inferred from the definition of God.

2. KANT ON THE AIMS AND STRUCTURE OF METAPHYSICS

2.1. Aim

In his own metaphysics, Kant did not refuse to see the aim of metaphysics as providing us with synthetic a priori knowledge about the world. That synthetic a priori knowledge is possible has been shown by the mathematicians. However, even though their demonstrations meet the intuition test, there is no mathematical proof that these demonstrations really are about the world. Thus, mathematics is not metaphysics.

But at first sight it seems that metaphysics, when characterized in the way Kant does, as the search for a priori knowledge about the world, really has set an impossible task for itself. Putative a priori knowledge about the world should be generated from the knowing subject herself. But if it is not derived from contact with the world itself, how on earth could such knowledge be true of the world? Kant pondered this question in the famous letter to Herz (February 21, 1772) and also in a reflection that is worth quoting:

> The question is, how can we represent things completely *a priori*, i.e., independently of all experience (even *implicite*), and how can we grasp principles that are not derived from any experience (and consequently are *a priori*); how it happens that objects correspond to that which is merely a product of our isolated minds and how these objects are subjected to those laws that we prescribe to them. . . . That a representation, which itself is an effect of the object, corresponds to it is readily comprehended. But that something that is merely the offspring of my brain may relate to an object as a representation is not so clear. (Kant 2005, R 4473)

Kant thought that a famous previous answer to this question had the tendency "to run all philosophy into the ground." The answer he had in mind was that there is some third party, God, who implanted certain concepts and laws in the human mind in such a manner that they necessarily conform to external objects.[10] In addition to its initial implausibility, this suggestion fails to meet the objection that a priori concepts, such as the concept of cause, involve necessity. If these concepts were used only in our thinking of objects, then attributing a necessary relation between the things would, in the end, just mean that the subject cannot help thinking these things as not connected to each other. Thus, the supposed objective necessity would turn into a Humean subjective necessity. In this scenario, nothing would guarantee that the subjective necessity is matched by real necessity in the things thought about, and, as Kant (B168) says in the transcendental deduction, that is what the skeptic most wants.

To Aristotle and Locke, Kant attributes the view that a priori knowledge is something that can be acquired empirically, which I assume should be read as saying that the most general concepts of the understanding can be acquired through the senses. Kant criticizes this by pointing out that concept empiricism would make all metaphysical knowledge, as well as geometrical knowledge, contingent. Kant, however, was convinced that both mathematical and metaphysical cognitions should be necessarily true. In *Metaphysik Vigilantius* (M 429–30), Kant presents what is perhaps a

[10] Kant (M, 430) attributed this kind of preestablished harmony to Plato and Leibniz.

more interesting criticism against concept empiricism. In concept empiricism, concepts are not, of course, directly given to the mind by the senses; abstraction is needed. However, the activity of abstracting requires the use of reason, and therefore it is contradictory to say that these general representations could come to us through the senses:

> The contradiction is clear. Reason is supposed to deliver up cognition and yet cognition is supposed to be acquired through the senses.[11]

Even though Kant presents this critical point only briefly, it is very important. The idea, I believe, is that in abstracting, reason has to follow certain rules, and the ultimate rules, followed in abstraction, cannot be abstracted from experience.

2.2. Structure

Kant, then, was disappointed with traditional metaphysics, but instead of rejecting metaphysics, he wanted to revise it. In the lecture notes, Kant gives several slightly different characterizations of metaphysics and its parts. The leading idea is that metaphysics consists of two main parts: pure metaphysics and applied metaphysics (or metaphysics proper).

Kant gives three tasks to pure metaphysics, which in the lecture notes is also called transcendental philosophy. First, it should give the source of a priori cognition of objects. Where do the a priori concepts arise from, and how many basic concepts are there? Second, it should consider the extent of the pure concepts of reason, identifying the kinds of objects these concepts are legitimately applied to. And third, the border of a priori knowledge should be defined by giving the limits pure reason cannot overstep. Kant further divides pure metaphysics into ontology and the critique of pure reason.[12] The task of ontology is to give the basic concepts by identifying their source, whereas the remaining two tasks are left to the critique of pure reason, which should define the extent and borders of a priori knowledge.[13]

For Kant as well as for Baumgarten, ontology is investigation into the most general predicates of things, and as Kant thinks, in the spirit of the rationalists, that these predicates are a priori, it is no wonder that for him understanding (or reason) should be the primary target of ontology. Thus, in *Metaphysik Vigilantius* (M 427), Kant says of

[11] M 430.

[12] Kant is not completely consistent in this. Sometimes he identifies it with ontology, and sometimes he takes transcendental philosophy as identical with what he calls the critique of pure reason.

[13] See M 109–19 and M 427–28.

ontology that it is the dissection of reason according to all elementary concepts contained in it and while justifying understanding as the proper object of ontological study, Kant tells in *Metaphysik Mrongovius* (M 140):

> One easily comprehends that [ontology] will contain nothing but all basic concepts and basic propositions of our *a priori* cognition in general: for if it is to consider the properties of all things, then it has as an object nothing but a thing in general, i.e., every object of thought, thus no determinate object. Thus nothing remains for me other than the cognizing, which I consider. The science that deals with objects in general, will deal with nothing but those concepts through which the understanding thinks, thus of the nature of understanding and of reason, insofar as it cognizes something *a priori*.—That is transcendental philosophy, which does not say something a priori of objects, but rather investigates the faculty of the understanding or of reason for cognizing something *a priori*; thus with regard to content it is a self-cognition of the understanding or of reason, just as logic is a self-cognition of the understanding and reason with regard to form.

This densely packed passage is extremely interesting. In it, Kant gives an argument, probably not intended to be a deductively valid one, for understanding's being the object of ontology. Ontological categories, as we have seen, cannot be abstracted from experience, and the question becomes what their source is in the understanding. That their source is understanding or reason is not by itself a sufficient answer, because the source Kant is looking for is of such a kind that it helps to identify all the basic concepts of ontology or of our a priori thinking.

Whereas ontology consists in identifying the pure concepts of understanding and the a priori principles that evolve from them, the critique of pure reason investigates the objective reality and validity of these concepts and principles. The task is to define their extent and boundaries generally. The definition of the extent of the basic a priori concepts and principles requires identifying the basic types of entities they can be applied to, whereas the definition of their borders should give the types of entities that are beyond the application of those concepts and principles. The idea is that in the critique of pure reason the field of application of the pure concepts and principles becomes completely identified. So the critique of pure reason becomes completed when the X's in "X's are the objects to which we can apply the pure concepts and principles [i.e., the extent] and X's are the only objects to which we can apply them [i.e., the border]" are given.

Applied metaphysics consists of the application of the pure concepts and principles and is further divided with the help of the nature of those objects these concepts are thought to be applied to. That part of metaphysics proper in which metaphysical

concepts are applied to the objects of the outer sense is called the doctrine of the body, whereas the doctrine of the soul consists of application of the metaphysical concepts to the objects of the inner sense. Both the doctrine of the soul and the doctrine of the body investigate empirical or immanent use of understanding. When pure concepts are applied to objects of mere reason—that is, when there is transcendent use of understanding—the resulting doctrines are rational cosmology and rational theology. Kant's view of metaphysics as based on his lectures can then be presented with the following diagram:[14]

The division of metaphysics given above does differ in important respects from Baumgarten's characterization in the *Metaphysica*, on which Kant based his lectures. According to Baumgarten, metaphysics consists of ontology, psychology, cosmology, and natural theology. In addition to there being no distinction between pure and applied ontology in Baumgarten, he also had no idea of transcendental philosophy or pure metaphysics and its most important ingredient, the critique of pure reason. Also, the distinction between "metaphysics applied to sensible objects" and "metaphysics applied to objects of reason" is lacking in Baumgarten's treatise. Kant was convinced that metaphysics should involve the critique of pure reason, where one should investigate how it is possible that the mind has a priori knowledge of something that we are prone to locate outside the mind. No metaphysical treatise can ignore such a critique,

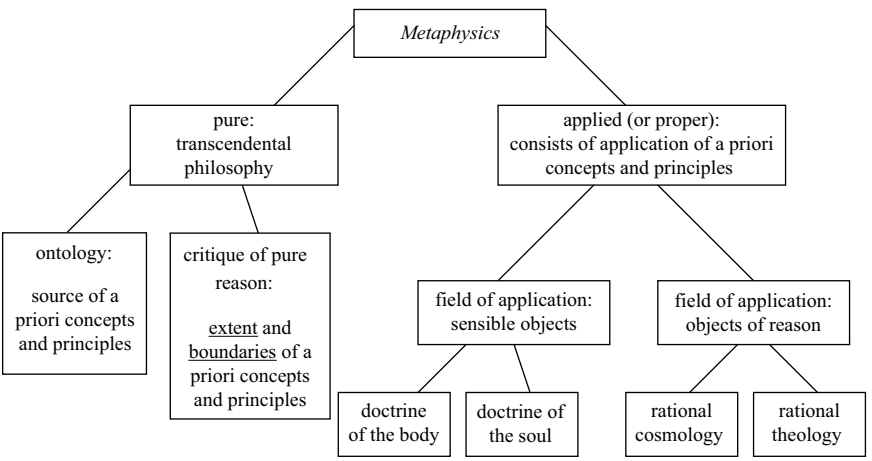


FIGURE 6.1

[14] This diagram closely resembles the one Kant gives in R 4851. Instead of pure and applied philosophy, Kant there speaks of general and special metaphysics, respectively. The doctrine of body and the doctrine of soul are replaced by *physica rationalis* and *psychologia rationalis*, which together form what Kant calls *physiologia rationalis*.

in which reason takes itself as its object and takes its own capability of knowing or cognizing under critical examination.[15]

3. KANT'S LECTURE NOTES AS THE GUIDING THREAD TO THE *CRITIQUE*

3.1. The Structure of the *Critique*

The *Critique* is first divided into sections on the transcendental doctrine of elements and the transcendental doctrine of method (see the Figure 6.2). The section on the transcendental doctrine of method is short but contains important criticism of the use of the mathematical method in philosophy. The discussion on the transcendental doctrine of elements covers transcendental aesthetics and transcendental logic. The section on transcendental logic is further divided into parts on transcendental analytic and transcendental dialectic. Within the section on the transcendental analytic, Kant discusses the analytic of concepts and the analytic of principles. And within the analytic of concepts, Kant presents both the metaphysical and the transcendental deductions. The main parts of the analytic of principles are "On the schematism of pure concepts of the understanding" and "System of all principles of pure understanding." The transcendental dialectic is a negative doctrine with the aim of showing where the need for the transcendent use of reason arises from and why all the arguments in which one attempts to use reason transcendentally fail.

In this section, the aim is to show that there is almost a perfect fit between the structure of metaphysics as Kant conceived it in his lecture notes and the transcendental analytic. Transcendental aesthetics, it will be claimed, is a necessary condition for the possibility of metaphysics, and the transcendental dialectic is seen as an attempt to guard against any counterexamples a dogmatist might be tempted to present.

[15] Wolff's idea of metaphysics is closely similar to that of Baumgarten's, of course. This is the description Hegel (1971, 260–61) gives of Wolff's metaphysics: "Metaphysik. Diese enthält a) *Ontologie*, die Abhandlung von den abstrakten, ganz allgemeinen Kategorien des Philosophierens, des Seins, dass das *ens unum, bonum* ist; das Eine, Aksidenz, Substanz, Ursache und Wirkung, das Phänomen usf. kommt vor; es ist abstrakte Metaphysik. b) Die nächste Lehre ist *Kosmologie*; das ist allgemeine Körperlehre, Lehre von der Welt. Das sind metaphysische, abstrakte Sätze von der Welt, dass es keinen Zufall gibt, keinen Sprung in der Natur,—das Gesetz der Kontinuität. Er schliesst Naturlehre und Naturgeschichte aus. c) Dann *rationelle Psychologie* oder Pneumatologie, Philosophie der Seele: Einfachheit, Unsterblichkeit, Immaterialität der Seele. d) *Natürliche Theologie*: Beweise vom Dasein Gottes."

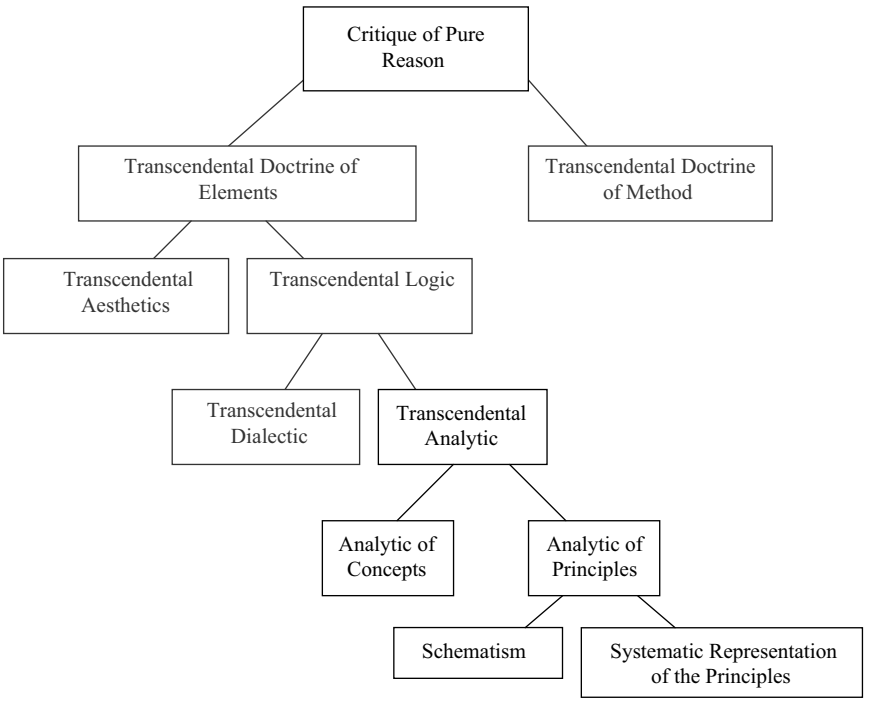


FIGURE 6.2

3.2. Metaphysical Deduction as Ontology: The Source of the Pure Concepts of the Understanding

Kant's view was that when metaphysics is freed from the errors of empiricism and rationalism, it may finally become a well-respected science, one that, as has already been said, can be brought to completion (like logic) because basically metaphysics is nothing but self-knowledge. However, this line of thought raises the question about the proper method of arriving at the basic concepts. As is well known, Kant thought that the work of the logicians is useful here. Cognizing an object for us humans who lack intuitive knowledge has to be done through judgments; in fact, judgments, almost by definition, involve a reference to an object.[16] Thus, by studying the different acts of making a judgment, we should learn about the most general ways of thinking about objects.

At first sight, studying judgments in order to find the basic ontological categories does not look very promising. In judgments, representations are connected to each other through logical connectives such as implication (hypothetical judgment) and copula (categorical judgment). So it looks as if logic would provide us only with different relations between concepts and judgments and not tell us anything about how we think of objects. However, by turning one's attention to different forms of judgment,

[16] See §19 of the B-deduction, *Critique* B141.

one comes close to a priori elements. It is important for Kant that judging is combining, and that combining is an act of the understanding. The different logical connectives, or logical forms, provide different ways for the understanding to combine representations. It is not that representations come to the understanding already combined through different connectives; rather, the understanding itself combines these representations under the connectives. The representations do not pile up as an aggregate; they are organized through conceptual activities of the understanding, which cannot be given but must lie a priori in the mind.

Even though it looks as if that logic, instead of being engaged with the a priori thinking of objects, has to do only with the relations of concepts and judgments, Kant thought that the turn to the logical forms means a definite victory. He realized that the logical forms lead to those a priori concepts that are essential in thinking about objects. Kant expresses this insight in a famous passage in the *Critique*:

> The same function that gives unity to the different representations *in a judgment* also gives unity to the mere synthesis of different representations *in an intuition*, which expressed generally, is called the pure concept of the understanding. The same understanding, therefore, and indeed by means of the very same actions through which it brings the logical form of judgment into concepts by means of the analytical unity, also brings a transcendental content into its representations by means of the synthetic unity of the manifold in intuition in general, on account of which they are called pure concepts of the understanding that pertain to objects *a priori*; this can never be accomplished by general logic. (A79/B105)

In spite of the technical terminology involved in this passage, its meaning seems clear to me. The point is, I suggest, that in a judgment about an object the understanding performs a dual act. This is best explained with the help of an example. Suppose that somebody judges: "If the temperature goes below zero, then the water freezes." This judgment can be taken in two ways. First, it can be seen to be a judgment about the relation between the judgments "Temperature goes below zero" and "Water freezes," that is, the truth of the former is sufficient for the truth of the latter. Taken in this way, the judgment is a judgment about judgments or representations of objects. In any case, in this reading it is not about objects. However, the one who makes the judgment is also saying something about the relation between two objects (here events, or event types), that is, of the temperature's falling below zero and the water's freezing; what she is saying is that the water's freezing is dependent on the temperature's falling below zero. This dependence, moreover, is not a logical dependence but a real dependence in nature, as it were. More generally, any judgment purporting to describe the world can be taken in two ways: first, as being a judgment about a relation between concepts, or

more widely representations, and second, as expressing a relationship between things in the world. In this way, every logical function is matched by a relational concept through which the subject combines different representations. These a priori concepts are categories, or pure concepts of the understanding, without which the thinking of objects (that is, making judgments about them) would be impossible.

The dissection of understanding, with the help of general logic, into the basic concepts necessary for thinking about objects is what Kant is doing in the metaphysical deduction of the *Critique*. Here Kant attempts to show the exact correspondence between the table of judgments and the table of categories. Thus, metaphysical deduction belongs to ontology, and ontology, of course, belongs to metaphysics, which explains why Kant uses the expression "metaphysical deduction." In this essay, I will not go deeper into explaining the metaphysical deduction, but I hope the reader has got an idea of why metaphysical deduction should be seen as part of ontology.

3.3. Transcendental Deduction as Critique of Pure Reason: Extent and Borders

It is convenient to divide Kant's notorious transcendental deduction into two parts.[17] In the first part, Kant can be seen to give an answer to the *quaestio juris* by showing that the categories have objective reality and are not mere thought entities.[18] What Kant shows in the first part is that the categories are necessarily applied to objects of experience and that they have no use besides that. Thus, the first part of the deduction contributes to showing the extent and border of the categories. The second part of the deduction aims to prove that everything that possibly comes before the senses, that is, any object of perception, has to be such that the categories are applicable to it. This, then, implies that the full definitions of the extent and boundaries of the pure concepts of the understanding are not given until the end of the second part of the deduction. What is being shown, then, is that any thing that can come before the senses is such that categories can be applied to it (extent) and that everything else lies beyond the field of the application of the categories. However, definitions of the extent and border of the application of the categories do not exhaust the aim of the deduction. As stated above, for Kant metaphysics deals not only with a priori concepts but also with

[17] When "transcendental deduction" occurs in my text, it refers to the second edition's version of the deduction, that is, to the so-called B-deduction. The first part ends probably at §21, *Critique* B144–46. There are several interpretations of the two-part strategy of the B-deduction, which was detected by Henrich. The interpretation given here seems to be in line with Karl Ameriks's (2003, 51–66) interpretation. For a different one, see Allison 2004, 159–201.

[18] The *quaestio juris* asks with what right we apply a priori concepts to objects of experience. See *Critique* A 84/B116.

synthetic a priori principles, and Kant shows in the second part of the deduction that there are certain a priori laws or principles whose function is to structure the data given by the senses so that everything that comes before the senses falls under the categories. The basic idea seems to be that the possibility of applying a particular category to a perception requires its own a priori law. Thus, categories can be seen to be the *source* of a priori laws. Because the a priori laws consist of pure a priori concepts, the field of the application of those laws cannot exceed that of the categories. Thus, the laws cannot go beyond perceptions. However, in the analytic of concepts, Kant is not explicitly concerned about giving the extent of a priori laws, which is done in the analytic of principles by giving a proof of them.[19]

The transcendental deduction, then, can also be seen to perform the second function of the critique of pure reason. Here it should be noted that transcendental deduction does not belong to applied metaphysics because it does not tell which objects are characterized as falling under the different categories. It does not result in such sentences as "The plate is a substance and whiteness its accident."[20]

This is not the place to go deep into the transcendental deduction, but a rough outline is needed here. The fundamental starting point of the first part of the deduction, as I take it, is that we have cognitions, where a cognition consists of a given object that is thought under a concept. It does not matter whether such an object of cognition really exists or not. This is a harmless assumption, even something that Descartes would have accepted in his systematic doubt. This fundamental starting point together with other crucially important assumptions in the deduction are listed below:

1. We succeed in thinking of objects, be they existent or not.
2. An object is that in the representation of which are united several representations that we take to be given by the senses.
3. Unification (that is, combination in the concept of an object in general) is not given but is an act of the understanding.
4. The pure concepts of the understanding are concepts of an object in general.

It follows from these premises that any object we think has to conform to the categories. Not only do we have to think an object as conforming to them, but the object itself must conform to them. This is because any object that we think is partly our own making. Our understanding gives to matter, with respect to which we are passive, an intellectual form through the categories; in good Aristotelian spirit, the object itself is a combination of this form and the matter, which is given from the outside, as it were. Thus, the

[19] B167.
[20] See M 114–15.

categories, being concepts through which representations are connected, have objective reality. The understanding realizes its basic forms (that is, the categories) in the matter given by the senses. So in a way, the *quaestio juris* about the categories has been answered at this point, because it has been shown that the categories have objective reality.

However, at §21 of the B-deduction, Kant seems to have in mind a wider notion of the transcendental deduction, because there he says that the proof sketched above is only the beginning of a deduction.[21] The reason for this lies in the fact that the proof above presupposes that the objects are already thought about, and this leaves open the possibility that something might come before the senses such that it is unthinkable, as it were. In such a situation the understanding would share the fate of somebody who is hearing a language she does not know at all. What comes before the senses would not be interpretable, or combinable, with the help of the categories. If understanding and sensibility are viewed as distinct and independent faculties, then nothing would exclude this possibility.

Kant's view, of course, is that understanding and sensibility, even though distinct, work in close cooperation; as Kant can be seen as pointing out, their harmonious interplay is familiar to us. We succeed in thinking about different geometrical figures such as lines and circles, but this requires something happening in sensibility. One cannot think of a circle without describing it, Kant says, and one cannot think of space's three-dimensionality "without placing three lines perpendicular to each other at the same point."[22] Understanding, then, is able to determine sensibility. Now, Kant argues that perception, a process that happens in sensibility, is determined by the combinatorial activity of the understanding, and therefore it can be known in advance (a priori) that everything that comes before the senses is thinkable. Thus, all perceptions are "something for me," that is, thinkable by me.[23] In this sense, understanding gives laws to nature and, it can even be said, makes nature possible. Thus, the source of the a priori laws or principles lies basically in our judgments. The other aspect of the dual act we call judging is just combining the matter given by the senses, and basically it is this combinatorial activity that gives prescriptions to nature.

The results of the transcendental deduction, then, can be summarized as follows. In sections 15–20, Kant shows that categories have objective reality. They hold of everything that we succeed in thinking. In the second part of the B-deduction, Kant shows that nothing can come before the senses that does not obey the categories. These two results contribute to knowing the extent of the pure concepts of the understanding. In the deduction, Kant also shows the borders or limits of the application of the categories by arguing that they cannot be applied to anything besides objects of experience. It is also

[21] *Critique* B144.

[22] *Critique* B 154.

[23] In the beginning of the transcendental deduction at § 16 Kant identifies a representation's being something for me with its being thinkable by me.

noteworthy that in the second part there arises the thought of there being certain a priori laws governing perception. This is important for the correct understanding of the relation between the transcendental deduction and the analytic of principles. It seems rather safe to say, then, that the B-deduction belongs to the critique of pure reason—to the part of pure metaphysics that has to define the extent and border of a priori concepts and laws.

3.4. Analytic of Principles as Applied Metaphysics

If it is right to see the transcendental deduction as dealing with pure metaphysics, the second part of "Transcendental Analytic," "Analytic of Principles," should contain applied metaphysics, which, in Kant's transcendental idealism, cannot mean anything but knowledge of when to correctly apply a priori concepts to objects given intuition (i.e., appearances) and the exposition of the a priori laws of nature. The transcendental deduction just aimed to show that a priori items, concepts and laws, are applicable only to objects of possible experience, but it did not tell how to apply this or that concept, and it neither specifies nor proves the laws. In this section, it will be shown that Kant does not disappoint the metaphysical reader: the analytic of principles deals with issues that belong to applied metaphysics.

The alternative title of "Analytic of Principles" is "Transcendental Doctrine of the Power of Judgment." For Kant, the power of judgment means the subsumption of particulars under principles or concepts, and the transcendental power of judgment is the subsumption of particulars under a priori concepts or principles. But this is just applied metaphysics, as characterized in the lectures. The first chapter of "Analytic of Principles" is the notorious schematism chapter. Even though it is an extremely difficult chapter, its aim is to give the criteria for applying categories to the objects of empirical intuition.

The second chapter of "Analytic of Principles" is called "System of All Principles of Pure Understanding." When the *Critique* is read from a metaphysical viewpoint, this chapter gives the fruits of metaphysical investigations. In metaphysics, as Kant understood, the interest has always been in finding true principles about the world, and applied metaphysics, as we have already said, consists in the application of a priori principles to objects of experience. Whereas transcendental schematism is concerned about the application of a priori concepts to objects of experience, here Kant tries to lay down certain a priori principles the objects of experience have to obey. As is well known, these principles consist of the axioms of intuition, anticipations of perception, analogies of experience, and postulates of empirical thought in general.

The section "System of All Principles of Pure Understanding" contains astonishing proofs of principles of the highest importance. For example, in the analogies of experience Kant tries to prove the principle of causality. Thus he was very optimistic about the possibility of applied metaphysics. Even though this is not the place to go into detail about

the proofs of the principles, the method Kant was using in order to demonstrate these a priori principles is very interesting. First, he does not think that these principles could be derived as theorems from still higher principles. There are no higher principles than these. Second, metaphysical principles cannot be proved by appealing to the principle of contradiction, which is the method used in demonstrating analytical truths. Because the metaphysical principles as metaphysical principles are thought to be necessary and universal, they cannot come from experience through induction, which gives only comparative universality. Thus, some new criterion is needed, and Kant, of course, thought this criterion is related to the possibility of experience. He states the criterion as follows:

> The conditions of the **possibility of experience** in general are at the same conditions of the **possibility of objects of experience**, and on this account have objective validity in a synthetic judgment *a priori*. (*Critique* A 158 / B 197)

To summarize, while the chapter on schematism gives the conditions under which the pure concepts that are needed for thinking about objects are correctly ascribed to given empirical objects, the chapter "System of All Principles of Pure Understanding" demonstrates what particular a priori principles or laws are needed for the possibility of experience, and so shows the objective validity of those principles. A look back at the transcendental deduction makes this interesting. It seems that the two-step strategy of the transcendental deduction is in conformity with the contents of the chapter on schematism and the chapter on systematic representation of all synthetic principles. I am inclined to interpret the first step as showing that the categories have to hold objects of experience and the second step as proving that all possible perceptions have to obey certain a priori laws. These chapters of the analytic of principles concern the application of the a priori concepts and a priori principles. Thus, they are investigations in applied metaphysics, even though the extent of the principles (pure metaphysics) is shown by proving the principles that govern the structuring of perceptions (applied metaphysics).

4. TRANSCENDENTAL AESTHETICS/IDEALISM AS A NECESSARY CONDITION OF METAPHYSICS

The doctrine that Kant calls transcendental or formal idealism lies at the base of his metaphysics. In the antinomy section of the *Critique*, Kant gives the following characterization of transcendental idealism:

> We have sufficiently proved in the Transcendental Aesthetic that everything intuited in space or time, hence all objects of an experience possible for us, are nothing but

> appearances, i.e., mere representations, which, as they are represented, as extended beings or series of alterations, have outside our thoughts no existence grounded in itself. This doctrine I call **transcendental idealism**. The realist, in the transcendental signification, makes these modifications of our sensibility into things subsisting in themselves, and hence makes **mere representations** into things in themselves. (A 491/B 519)

There are, of course, several issues involved in the demonstration of transcendental idealism, and its meaning has, unfortunately, been a subject of a seemingly endless debate. What the transcendental idealism appears to say is that all empirical objects have a mind-dependent existence. This position, of course, resembles the one advocated by Berkeley, who wanted to reduce all empirical objects into ideas. Kant himself contrasts his position to Berkeley's:

> Bishop Berkeley in Ireland . . . maintained that bodies are even impossible, because one would always contradict oneself if one assumes them. This is dogmatic or crude idealism, that no bodies exist outside of us, but rather that appearances are nothing and lie merely in our senses and our power of imagination. But there is also a critical or transcendental idealism, when one assumes that appearances are indeed nothing in themselves, but that actually something unknown still underlies them. That is correct. (M 227)

Kant's idea seems clear. For him empirical objects are, to use Beatrice Longuenesse's (1998, 23) expression, internalized. They are modifications of our sensibility receiving their matter from our interaction with things in themselves, of which we can have no positive knowledge because they are not intuitable by us—we know them only by name, as Kant says in his lectures. So Kant's applied metaphysics is much restricted in scope; only appearances stand within its reach.

Even though Kant believed that he had demonstrated transcendental idealism with apodictic certainty, this doctrine can also be seen as a hypothesis that saves metaphysics. In both A- and B-deductions Kant emphasizes that for the success of the deduction, transcendental idealism is necessary. This is from the concluding section of the A-deduction:

> If the objects with which our cognition has to do were things in themselves, then we would not be able to have any *a priori* concepts of them . . . But if, on the contrary, we have to do everywhere only with appearances, then it is not only possible but also necessary that certain *a priori* concepts precede the empirical cognition of objects. For as appearances they constitute an object that is merely

> in us, since a mere modification of our sensibility is not to be encountered outside us at all.[24]

Transcendental idealism plays a crucial role also in the transcendental dialectic, to which we shall now turn, where Kant's concern lies in the critical evaluation of rational cosmology, rational psychology, and rational theology.

5. TRANSCENDENTAL DIALECTIC

As has already been said, Kant divides applied metaphysics into two separate fields. First, one can see applied metaphysics as consisting in the application of a priori concepts and laws to sensible objects. Here there is immanent use of the pure concepts of the understanding. Second, applied metaphysics can be seen as being the application of pure concepts to non-empirical objects, which Kant calls objects of mere reason, and this is what is aimed at in the part of applied metaphysics that consists of rational psychology, rational cosmology, and rational theology. If this kind of application really is possible, then understanding, in addition to having an immanent use, also has a transcendent use. The transcendental dialectic is concerned to show that there cannot be any such transcendent use of the understanding even though in human beings there is a strong tendency to believe the contrary. We are by necessity in the grip of what Kant calls transcendental illusion.

As we have seen, a central feature in Kant's critique of transcendent use of the pure concepts of the understanding is his intuition test of possibility. Logical consistency is not enough for the possibility of an object; in addition, demonstration of the possibility of an object requires that a sensible intuition corresponding to the concept should be producible. Of objects of mere reason such an intuition cannot be given, and for that reason we cannot even know whether they are possible.

So the aim of the transcendental dialectic is to criticize those arguments that seem to offer valid proofs about supersensible objects. Kant (2005, 135-136) gives a good illustration of the method of critique in a reflection from the beginning of the 1770s:

> In the critique of metaphysics one can make use of two kinds of methods. The first is to examine proofs and to search for their *paralogismos* or *petitiones principii*. The second is to oppose one proof to another, indeed a proof equally convincing as the opposite. This latter method is the best. For since the errors in metaphysical inference consist chiefly in fact that what holds only of the condition of sensible cognition is asserted

[24] *Critique* A 129.

> of the object, a proof can appear so rigorous that one perceives with difficulty an error that one discovers better by means of a *demonstratio oppositi*.

In the *Critique*, the latter method is present in Kant's study of the antinomies and the former in the paralogisms of pure reason.

That Kant included a chapter on transcendental dialectic to the *Critique* is interesting. Was Kant only concerned to show that no counterexample to his restrictive metaphysics has so far been given, or did he have something more systematic in mind? The latter seems to be the case; Kant believed it is possible to identify all possible arguments in which there is a transcendent use of reason and understanding and show them false or not proving what they were supposed to prove. It was not Kant's intention just to demonstrate that some of the best-known arguments that would show that reason has a transcendent use do not succeed.

Kant's idea was that reason, as the faculty of making inferences, has an inborn drive to seek the highest grounds of cognition. Reason tries, as it were, to attain premises that no more can be conclusions. Thus, reason seeks the unconditioned. This search for the unconditioned starting points in reasoning becomes a search for unconditioned objects, and so we get the ideas of a simple substance (categorical syllogism), of God (disjunctive syllogism), and of the world (hypothetical syllogism). Now, it also seems necessary to assume that if the conditioned is given, then the whole series of its conditions must be given. The dogmatist, or rationalist, wants to stop the series at the unconditioned, whereas the empiricist refuses to understand the unconditioned and assumes these series of conditions to be infinite; in the antinomies it is shown that both parties can present valid arguments for their positions. So something must be wrong, and Kant argues that both sides of the dispute erroneously accept transcendental realism as their starting point. For Kant, no such series is given. For example, both the claim that the world has a beginning in time and the claim that the world does not have a beginning in time are false because there is no such completed transcendentally real series of the history of the world.

6. METAPHYSICS IN THE *CRITIQUE*

If the interpretation of the *Critique* as metaphysics is correct, it is quite natural to wonder why Kant wanted to conceal the metaphysical aim from the reader. Fortunately, the *Critique* itself gives an answer to this. The transcendental analytic, which corresponds to the metaphysics of the lecture notes, is part of what Kant calls transcendental logic. Transcendental logic is concerned with a priori thought of objects, and thus it fits well with what in the lecture notes is designated as metaphysics. Transcendental logic aims to present the pure concepts of reason; besides that, it is

a logic of truth because it gives a truth-criterion for non-mathematical synthetic a priori judgments. Thus, Kant had in mind the idea of a new science that guided his investigations, and he tentatively called it transcendental logic. It would have been dangerous to start off by calling it metaphysics, because that name might have guided the author too much; also, the reader with whom Kant wants to share the thinking process might have gone astray in trying to read it as a work on traditional metaphysics.

However, in the section of "The Transcendental Doctrine of Method" that is titled "The Architectonic," Kant begins to reflect on the new science he has built, and he seems to think that what he was doing in the "Analytic" is what has always been aimed at in metaphysics. The true nature of metaphysics has been revealed, and that nature is still worth loving:

> We can therefore be sure that however obstinate or disdainful they may be who know how to judge a science not in accord with its nature, but only from its contingent effects, we will always return to metaphysics as to a beloved from whom we have been estranged, since reason, because essential ends are at issue here, must work without respite either for sound insight or for the destruction of good insights that are already to hand.
>
> Thus the metaphysics of nature as well as morals, but above all the **preparatory** (propaedeutic) critique of reason that dares to fly with its own wings alone constitutes that which we can call philosophy in a genuine sense.[25]

In this passage, Kant sees the critique of reason as preparatory for metaphysics. However, a little earlier, at A 845/B 873, he has divided metaphysics into transcendental philosophy and physiology of pure reason, and the critique of pure reason is an ingredient of transcendental philosophy. This division equals the division between pure and applied metaphysics in the lectures. Also, the further subdivisions here find their counterparts in the divisions of the lecture notes.

Finally, Kant comes to claim that metaphysics for him consists of ontology, rational physiology, rational cosmology, and rational theology, which comes very close to Baumgarten's view. Of course, Kant rejected the possibility of rational theology and cosmology. However, it is interesting that in Kant's purified metaphysics there is still room for rational psychology, though this kind of study is no longer engaged in demonstrating the immortality and simplicity of the soul; rather, it aims to give the criteria for applying pure concepts to the objects of inner sense.

[25] *Critique* A849-850/B877-878.

In a striking way, the nature of Kant's revision of metaphysics becomes clarified in the following passage:

> The Transcendental Analytic accordingly has this important result: That the understanding can never accomplish *a priori* anything more than to anticipate the form of a possible experience in general, and, since that which is not appearance cannot be an object of experience, it can never overstep the limits of sensibility, within which alone objects are given to us. Its principles are merely principles of the exposition of appearances, and the proud name of an ontology, which presumes to offer synthetic *a priori* cognitions of things in general in a systematic doctrine (e.g., the principle of causality), must give way to the modest one of a mere analytic of pure understanding.[26]

The difference between the ontology of the lecture notes and traditional ontology is that whereas in traditional ontology it is assumed that the ontological categories should be applicable to all things in general, what is claimed in Kant's new metaphysics is that their possible field of application cannot lie beyond the appearances.

7. POSSIBILITY OF KANTIAN METAPHYSICS: AN EXAMPLE

It seems to me that Kant's critical attitude toward metaphysics has been overemphasized. It is true that he did reject the possibility of acquiring synthetic a priori knowledge about the reality that is independent of mind. However, he was also very optimistic about the possibility of metaphysics in transcendental idealism.

Philosophers doing metaphysics now are working very much in a Kantian setting. Even though some still offer arguments for such things as the existence or nonexistence of God, metaphysicians are more concerned to analyze basic metaphysical concepts, such as the concept of event and causation. Kant's own attitude toward such metaphysics or ontology was very favorable. In fact, his lecture notes on metaphysics contain subtle analyses of concepts such as ground, substance, existence, quantity, quality, and nothing (*Nichts*). Kant used as a course book Baumgarten's *Metaphysica*, and he much admired Baumgarten's skills as an analytician. What was wrong with Baumgarten from Kant's point of view was that he thought Baumgarten to be a Cyclops in not evaluating the possibility of metaphysics. Metaphysics needs a critique, and Kant thought that nobody had realized it with sufficient seriousness. What Kant aimed so hard to do was to show that there is a subject matter for the science that should be called metaphysics, but this, of course, is quite consistent with the view that

[26] *Critique* A247/B303.

a full-blown metaphysics should also clarify the basic metaphysical concepts as thoroughly as possible.

I will here consider an old problem in ontology that is still hotly debated among metaphysicians and try to find out how Kant would solve it. If the solution looks plausible, that might make Kant's metaphysics more fascinating for contemporary philosophers. The problem I have in mind could be called the problem of the individual. Basically, there are two competing attitudes toward its ontology. The first is that underlying every individual there is a substratum in which the properties inhere. The substratum in itself is propertyless, and its having properties is due to its being related to them through inherence. Let us call this theory the substratum theory of individuals. It is sometimes attributed to Locke, even though he did not endorse it. According to a competing view, individuals are bundles of qualities. Individuality does not require a separate substratum in which qualities inhere, but an individual exists when the qualities that are predicated of the individual are suitably bundled together. This is the so-called bundle theory of individuals, and it is commonly attributed to Hume. Of course, in contemporary metaphysics there are several variants of these theories, but most of the new theories of individuals are basically reducible to these.

However, both the substratum theory and the bundle theory meet with serious difficulties. It seems somewhat absurd to say that corresponding to any individual there is a bare particular that in itself is shapeless, colorless, and so on. On the other hand, it seems of no help to treat individuals as bundles. What are these bundles thought to be in more exact terms? They cannot be sets because sets are mathematical, abstract objects, whereas concrete individuals are not such entities. What differentiates an aggregate of qualities from a bundle that is an individual? In the literature, several subtle answers to these problems have been suggested, but the problems seem so difficult that it certainly is worthwhile to consider whether a completely different approach to the problem could be of any help.

A passage from *Mrongovius* gives a good outline of what Kant's answer to the problem of the individuals might look like. Just before the passage shortly to be quoted, Kant is speaking about a piece of chalk, and it may help the reader to think that the body Kant is speaking about is still that piece of chalk:

> If we omit everything empirical like weight, density, and color, I still retain the form and shape. Now I ask, can I also omit that? Yes, but then for me no body is left. Through body I think of a substance, so the concept still remains for me. Through substance I think of a subject that is not a predicate of another. In that case I am already arriving at concepts. It is a concept which remains when I omit everything else from the object. Every body has a power in it, i.e., a ground of action, that is again a concept. It has form, a multitude of parts—or it is a whole, here I am

> also not permitted to think of space. Finally, there still remains the concept of a thing which is substance, has power, parts, is a whole, which presupposes no size or figure.[27]

When this passage is compared with the argumentation that is used to illustrate the substratum theory, one sees a striking difference in that Kant distinguishes between the properties of the thing and the concepts we use in thinking about it, whereas in the argument for the substratum theory there is nothing but the thing and its properties.[28] What Kant is doing in that passage is to claim that the categories of relation (substance), power (cause), and magnitude (whole) are needed in the thought about it. Thus, the object that is thought is a making of a mind to whose construction the data given by the senses give the occasion.

In the *Critique*, Kant uses the notion of transcendental object. He appears to use it in several meanings, but sometimes he seems to give it the role substratum has for the substratum theorist. This may occur most clearly in the A-deduction. There Kant writes:

> What does one mean, then, if one speaks of an object corresponding to and therefore distinct also from the cognition? It is easy to see that this object must be thought of only as something in general = X, since outside of our immediate cognition we have nothing that we could set over against this cognition as corresponding to it. (A104)

Thus, the entity that could be the ultimate object of our cognition and distinct from our representations cannot have in itself anything that could distinguish it from other individuals. In this respect, it resembles substratum. And soon after this Kant seems to argue that this ultimate object is something that is the result of the thinking subject's conceptual activity:

> It is clear, however, that since we have to do only with the manifold of our representations, and that X which corresponds to them (the object), because it should be something distinct from all of our representations, is nothing for us, the unity that the object makes necessary can be nothing other than the formal unity of consciousness in the synthesis of the manifold of representations. Hence we say that we cognize the object if we have effected synthetic unity in the manifold of intuition. (A 105)

[27] M 151.

[28] See, for example, Aristotle's *Metaphysics* 1029a10–20.

Kant's position seems to be that the object we are inclined to think as the substratum of an individual is not in any way an element in the given. It is something that the thinking mind produces in connecting the manifold that is given in perception. Unfortunately, we cannot evaluate this here in detail because Kant uses a very fine-grained conceptual machinery and giving a full assessment of his views would require a close look at the central notion of connecting in a concept.

8. CONCLUSION: TRANSITION TO THE METAPHYSICS OF MORALS

Even though it may look as if Kant's general attitude toward speculative metaphysics is dismissive, his metaphysics, as is well known, aimed to secure religion and morality. Morality, for him, requires freedom of the will, and freedom is one of the ideas of reason that cannot be intuited. However, Kant was very concerned to show that his transcendental idealism is not in contradiction to freedom of the will. This, then, means that there can be original actions that flow directly from the agent even though these actions are also connected to other appearances through universal causality. In fact, Kant even went so far as to claim that the reality of freedom does not require that it can be intuited or understood. For example, in *the Critique of Practical Reason*, Kant writes[29]:

> Freedom is the only one, among all the ideas of speculative reason, whose possibility we know a priori, though without understanding it because it is the condition of the moral law, which we know. (5:4)

The same thought is present also in the *Critique of Judgment*:

> Among the three pure ideas of reason, **God**, **freedom**, and **immortality**, that of freedom is the only concept of the supersensible that proves its objective reality (by means of the causality that is thought in it) in nature through its effect which is possible in the latter. (5:474)

So the metaphysics of morality requires a different starting point from the metaphysics of nature presented in the *Critique*.

Even though Kant thought there is no possibility of showing the objective reality of God, he did not believe that his metaphysical considerations were irrelevant to religion. If Kant is right, no philosophical argument is able to prove the non-existence of

[29] This and the following quotation are cited by R. M. Adams (1997).

God, and because we have moral reasons for believing in God's existence, it is rational to have faith (*Glauben*) in God. It should, then, come as no surprise that Kant sees metaphysics as "the police force of our reason with regard to the public security of morals and religion" (2005, R 5112).

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7

THE RELATION OF LOGIC TO ONTOLOGY IN HEGEL

Paul Redding

Even among those philosophers who hold particular aspects of Hegel's philosophy in high regard, there have been few since the nineteenth century who have found Hegel's metaphysics plausible, and just as few who are not skeptical about the coherency of the logical project on which it is meant to be based. Indeed, against the type of work characteristic of the late nineteenth-century logical revolution that issued in modern analytic philosophy, it is often difficult to see exactly how Hegel's logical writings can be read as a contribution to logic at all. Furthermore, any tendency toward skepticism here can only have been reinforced by the well-known views of Bertrand Russell about the logical inadequacy of the Hegelian approach of his predecessors.

Russell had regarded his own embrace of the emerging modern logic around the turn of the twentieth century as part of a reversal of his own youthful Hegelian views, and in various places he provided synoptic accounts of how he had come to see that Hegelian metaphysics was irretrievably damaged by its naive logical assumptions.[1] As he tells it, it was his work on Leibniz that had led him to the topic of relations, and there he had discovered a thesis—the "axiom of internal relations"—at the heart not only of Leibniz's metaphysics but also of the "systems of Spinoza, Hegel and Bradley." This thesis held that "every relation is grounded in the natures of the related terms,"[2] and it was an ontological thesis that was ultimately based in Leibniz's assumption that "every proposition attributes a predicate to a subject and (what seemed to him almost the same thing) that every fact consists of a substance having a property."[3] Elsewhere he expanded:

> Now the traditional logic holds that every proposition ascribes a predicate to a subject, and from this it easily follows that there can be only one subject, the Absolute,

[1] See, for example, Russell 1959a, 42.
[2] Ibid., 43.
[3] Ibid., 48.

> for if there were two, the proposition that there were two would not ascribe a predicate to either. Thus Hegel's doctrine, that philosophical propositions must be of the form, "the Absolute is such-and-such," depends upon the traditional belief in the universality of the subject-predicate form. This belief, being traditional, scarcely self-conscious, and not supposed to be important, operates underground, and is assumed in arguments which, like the refutation of relations, appear at first such as to establish its truth. This is the most important respect in which Hegel uncritically assumes the traditional logic.[4]

On this reading, Hegel's philosophical system was just a late remnant of premodern thought, the elimination of which had been under way in the sciences since the sixteenth century.

Not all logically astute readers have been so dismissive. Graham Priest, for example, sees Hegel as an innovatory "dialethic" logician, who, "above all philosophers, understood the dialethic limits of thought,"[5] while Robert Brandom claims Hegel as the initiator of his own "inferentialist" approach to semantics based on analytic thinkers such as Wittgenstein and Wilfrid Sellars, who helped free modern philosophy from "the myth of the given."[6] And while, among logicians, Priest and Brandom are unusual in this regard, their unconventional assessments of Hegel find lateral support from a number of more general recent reassessments of the idealist tradition—reassessments that suggest that it is perhaps time to reexamine the issue of Hegel's logic. Among analytic philosophers Kant has always been held in higher regard than Hegel, and among the stream of positive readings of Kant's work, a number of studies have stressed Kant's positive relevance for the development of modern logic.[7] Meanwhile, innovative recent interpretations of Hegel have stressed the continuity of his thought with just those aspects of Kant's taken as responsible for its generally modern character.[8]

In the claim that Hegel's metaphysical inadequacies are consequent upon problems in the logic from which he starts, Russell's view at least concurs on one issue with Hegel's sympathetic post-Kantian interpreters: it acknowledges the degree to which Hegel's metaphysics is meant to be somehow grounded in logic, and as such suggests a distinctly Kantian dimension to Hegel's approach. Kant, it might be said, had effectively

[4] Russell 1914, 48.

[5] Priest 2001, 7. A dialethic logician works with a paraconsistent logical system in which certain contradictory statements of the form "p and ~p" can be true.

[6] Brandom 1994, 92.

[7] See, for example, Tiles 2004, Longuenesse 1999, Hanna 2001, and a seminal early paper by Thompson (1972–73).

[8] In particular, in the work of Robert B. Pippin (1989, 1997) and Terry Pinkard (1994, 2002).

reversed the relation of logic to ontology found in Aristotle's account of the categories. While Aristotle attempts to explain the categories used in talking and thinking about the world in terms of the basic structures of being, Kant's Copernican strategy gives explanatory priority to the structures of our judgments about the world, and then derives the corresponding "categorical" structures from the way we talk and think about it.[9] But Kant's reversal was carried out on the assumption that what was explained in terms of the judgment-derived categories was a subject-relative appearance, behind which stood the unknowable thing-in-itself.[10] However, is not the idea of a conceivable world-in-itself just as problematic from the Kantian orientation as the conception of it as knowable? Such a combination seems to take away our capacity for an aperspectival God's-eye view with one hand only to give it back with the other. Much of Hegel's work can be read as an attempt to show how while we are each fundamentally limited and conditioned in our cognitive capacities, we are nevertheless capable of somehow going beyond those limits in virtue of a socially based capacity for conceptual reason, an idea he thought was expressed in theological imagistic form in the Christian myth of an incarnated God, who after his death continued to live in the spirit of a certain kind of human community.

In the spirit of the post-Kantian interpretation, one can see Hegel as having attempted to extend the scope of Kant's reversal of explanatory direction to the metaphysical assumption that limited Kant's own attempt to go beyond Aristotle's category theory. This gives to Hegel's approach the seemingly paradoxical result that features of Aristotle's logic and ontology are reintroduced, it being a characteristic of Hegel's approach to negation (*Aufhebung*) that what is so negated is in some way retained within the superseding account. For Hegel, then, the categories do not simply reveal the form of thought that is able to be conceived apart from and opposed to the world; they reveal the structure of the world itself, and so in this way the extension of Kant's critical approach is meant to restore substantive content to philosophy by undermining the residual dogmatically metaphysical assumptions responsible for Kant's denial of it. But of course the type of ontology restored could not be that original type susceptible to Kant's critique—it must be a new, post-critical form.

Such a post-Kantian reading at least has the advantage of fitting with Hegel's claim that logic is the basis of philosophy and the starting point of his system, but what of Russell's diagnosis of the fundamental inadequacy of Hegel's logical starting point?

[9] In this reversal of the direction of explanation, Kant's position might be likened to that expressed in Wittgenstein's claim that "grammar tells us what kind of an object anything is" (1953, §373).

[10] Or at least that was how Kant was understood by Hegel, as he has been by many others. Such a two-worlds interpretation of Kant is, however, now commonly disputed. See, for example, Allison 2004.

In the following section I sketch some of the progressive features of Kant's approach to logic against which any assessment of Hegel's logical thought needs to be situated. While Hegel's criticisms of Kant have often been taken as symptomatic of a slide back into the type of pre-scientific and dogmatic metaphysics that Kant attempted to overturn, I will suggest a different reading in which Hegel attempts to make explicit Kant's seemingly ambiguous attitude to the way thought achieves a representational content.

KANTIAN PROGRESSION AND HEGELIAN REGRESSION IN LOGIC?

Kant is usually compared unfavorably to Leibniz, who is commonly regarded as having anticipated the development of symbolic logic in the nineteenth century.[11] Recently, however, this view has started to change. The emerging revisionist view stresses the continuity between Kant and Frege and is summed up in Mary Tiles's description of Kant as "the architect who provides conceptual design sketches for the new edifice that was to be built on the site once occupied by Aristotelian, syllogistic logic, but which in the eighteenth century was covered by rubble left by Ramist and Cartesian demolition gangs."[12] According to Tiles, Kant had laid "the groundwork for three important structural features of modern logic: the distinction between concept and object, the primacy of the proposition (or sentence) as the unity of logical analysis, and the conception of logic as investigating the structure of logical systems, and not merely the validity of individual inferences."[13] With the first two of these "structural features of modern logic" Tiles is clearly alluding to features or consequences of Frege's so-called context principle, expressed in claims such as that "the meaning of a word must be asked for in the context of a proposition, not in isolation."[14]

With the context principle, Frege had reversed the conception of predication as found in Aristotelian and scholastic term logic. For Aristotle, a judgment was formed by the copulation of independent subject and predicate terms, but the context principle denied that such terms could be understood as independently meaningful. Rather, they must be understood in terms of their contribution to the proposition, which was now regarded as the basic meaningful unit, the traditional analysis of predication now being replaced by one based on the mathematical distinction between

[11] In particular, the algebraic logic developed by Boole.

[12] Tiles 2004, 85.

[13] Ibid.

[14] This is the second of three fundamental principles that Frege lays down in "The Foundations of Arithmetic" (1997, 90; see also p. 108). Wittgenstein (1922, 3.3) was to effectively repeat this claim: "Only the proposition has sense; only in the nexus of a proposition has a name meaning."

"function" and "argument."[15] On the standard interpretation, this logical distinction is now seen as correlated with a metaphysical one between objects and the concepts applied to them.[16]

The case for Kant's progressivism is bound up with the distinction that he himself regarded as his seminal discovery, that between "intuitions" and "concepts" understood as different species of "representation" (*Vorstellung*). While concepts are "general" and "mediated," intuitions, he claimed, are "singular" and "immediate." To be meaningful, judgments require the contribution of both, as is summed up in his well-known dictum that without intuitions thoughts are "empty," but without concepts, intuitions are "blind."[17] This interdependence of intuitions and concepts in turn looks like Frege's "context principle," since, as Kant puts it, "the understanding can make no other use of . . . concepts than that of judging by means of them."[18] Furthermore, the distinction between concept and intuition was itself bound up with Kant's novel concern over the semantics of our representational capacities, as expressed in the oft-quoted letter to his student Herz. The "key to the whole secret" of metaphysics, he wrote, is to be found in the answer to the question concerning "the ground of the relation of that in us which we call 'representation' to the object."[19]

One can appreciate the forward-looking nature of Kant's distinction between concepts and intuitions by contrasting him to Leibniz. Despite the modern look of Leibniz's attempts at formalization, the logic he favored was the term-logical system of syllogisms.[20] Most important, in contrast to Kant's proto-Fregean grasp of the primacy of the proposition, Leibniz firmly held to an interpretation of the subject-predicate structure of the sentence in terms of the idea of conceptual inclusion, asserting that "in all true affirmative propositions, necessary or contingent, universal or singular, the notion of the predicate is always in some way included in that of the subject—the predicate is present in the subject—or I do not know what truth is."[21] This conception of conceptual relations in terms of the spatial metaphor of containment was just the conception that was responsible for what Russell was later to identify as the "axiom of

[15] Arguments are singular terms regarded as standing for individual objects within some domain, and functions are incomplete expressions that take arguments and assign values as outputs for those arguments. For example, in the case of arithmetic, the relation ". . . + . . ." will be considered as a function that yields numerical outputs for numerical arguments: the output "7" for the arguments "5" and "2," for instance.

[16] Furthermore, in association with modern set theory, this seemed to square logic with a modern natural-scientific conception of the world.

[17] *Critique of Pure Reason*, A51/B75.

[18] Ibid., A68/B93.

[19] Kant 1999.

[20] Lenzen 1990.

[21] Leibniz 1998b.

internal relations." Aristotle's syllogistic structures appear to be based upon Plato's method of "collection and division," the series of major, middle, and minor terms of a syllogism representing a series of universals from the most general to the most specific, related intensionally because generated from successive divisions by the application of specifying features, commencing with the major term. In this sense, they map relations between intensional contents of concepts, with the more general "contained" in the more specific. But from this perspective, how could logical structure be thought of as bearing on our investigations of the empirical world?

Leibniz had believed that if the definition (effectively Plato's division by specific differences) of a universal term were to be taken far enough, one would arrive at a complete individual concept, theoretically capable of determining an individual substance (monad).[22] Against this, Kant insisted that conceptual specification alone could never be sufficient to render a thought capable of referring to an individual thing. By itself, conceptual specification could not achieve adequate representation of the sort of existing single spatiotemporal unity that could be presented immediately as *this* thing presented here and now in perception.[23] Hence the distinction between concepts and intuitions, and the linked distinction between a general (formal) logic, which abstracts concepts from their application to any objects at all, and treats them in terms of their intensional interrelations alone, and transcendental logic, which considers concepts in relation to possible objects of experience for finite rational subjects. Hence, while in some way regarded as based upon formal logic, Kant's transcendental logic was one that, in contrast to formal logic, already had content—transcendental content.

With this focus on the semantic relevance of Kant's concept-intuition distinction, the lines for his logical rehabilitation seem reasonably clear.[24] However, it is just this focus that seems to strengthen the case against Hegel, since the concept-intuition distinction was a doctrine of which he, along with other post-Kantian idealists, was most critical. Indeed, Hegel typically opposes the whole way of framing the type of semantic question that Kant poses in his letter to Herz, and characteristically rejects the idea that we can independently consider something mindly, some representation, and something worldly, an object, and then ask after the nature of the relation of the former to the latter. How then could Hegel deny the concept-intuition distinction and yet not regress back into the framework from which Kant was breaking free?

[22] "Discourse on Metaphysics, section 8."

[23] Any further division of concepts will always yield more specific but still general and further specifiable concepts. In Kant's equivalent of the "Tree of Porphyry" there is no lowest level, no *species infima* (*Critique of Pure Reason*, A658/B686; cf. A331–32/B388–89).

[24] Even Russell, for example, had seen his own early account of the distinction between those sense-data known by acquaintance and the conceptually articulated knowledge by description as lining up with Kant's own distinction between empirical intuitions and concepts (Russell 1959b, 85).

In fact, the relations between Aristotle, Leibniz, Kant, and Hegel here are more complex than the story suggests when told in this way. Furthermore, the resources of Aristotelian term logic, on which Hegel (and Kant) drew, cannot be simply equated with the predicate-in-subject principle (the logical doctrine expressed in the metaphysically holist doctrine of internal relations), nor can Hegel's rejection of the intuition-concept distinction, despite his idealism, be simply equated with a blanket rejection of the idea that determinate thought involves a relation of concepts to something non-conceptual or worldly. As in other contexts, on issues of logic Hegel seems to have had an acute, albeit general, idea of what distinguished modern reflective thought from ancient thought, and he was far from being some simple nostalgic critic of all things modern. What he was typically critical of was what he perceived as a one-sided affirmation of modern as against ancient thought, and he sought to effect some type of mediation between them.

KANT, HEGEL, AND THE DETERMINATION OF THOUGHT CONTENT BY NEGATION

Kant, as we have noted, had linked his discovery of intuition as a separate, non-conceptual species of representation to the semantic need to establish a relation of thought to the world. Hegel rejected the idea of such a starting point, but he too was concerned with the general issue of the conditions under which thought can gain determinate content. But here it must be remembered that Kant's transcendental logic was itself a logic with content—transcendental content. Such would be Hegel's starting point, and the task of getting an ontology out of logic would proceed by a process of making such initially indeterminate content determinate. The means of this determination—determination by negation—is usually associated with the figure of Spinoza. However, it is also found in Kant himself and is derived from features of Aristotle's term logic.

The procedure of determination by negation is effectively found in Kant's approach to the way in which spatial and temporal representations (which for him are forms of non-empirical or pure intuition) can be determinate. Thus, in the "Transcendental Aesthetic" of the *Critique of Pure Reason*, he argues that a determinate region of space, for example, must be conceived as generated by a type of division within an encompassing larger (and, if the procedure is reiterated, ultimately single) space. Such a global representation of space itself is thus presupposed by any capacity to regard finite spaces as determinate, and so cannot be achieved by any type of compounding of representations of smaller, finite regions.[25] But in a number of essays in his late pre-critical

[25] This is one of the basic considerations behind his idea that space and time must be considered transcendentally ideal, and hence his conception of his own position as transcendental idealism.

period, and hence prior to his making of the concept-intuition distinction, Kant employed conceptual oppositions to make similar points concerning the determination of spatial representations. Specifically, in an essay from 1763, *Attempt to Introduce the Concept of Negative Magnitudes into Philosophy*,[26] he employs a distinction between what he calls "real" and "logical" negation to describe the structure of spatial relations that he later deals with in terms of the idea of pure intuition.[27]

Logical negation, he says, is just that which holds between contradictory statements, the simultaneous affirmation and denial of some property of a thing: one statement thus affirms that A is F and the other says that it is *not* the case that A is F, or to put it otherwise, it predicates of A the contradictory predicate "not F." In contrast, real negation occurs "where two predicates of a thing are opposed to each other [*entgegengesetzt*], but not through the law of contradiction."[28] Such oppositions hold between opposed and reciprocally cancelling determinations, Kant's favored example being that between mechanically opposed forces. As with this example, a number of others given also involve opposed spatial directions,[29] but Kant also identifies as real oppositions those holding between credits and debits of money, and between amounts of pleasure and displeasure, good and evil, love and hate, and desire and aversion.

In fact, Kant's distinction between real and logical negations repeats a distinction within Aristotle's term logic. Unlike modern propositional logics, in which negation is an operation applying externally to a proposition (p) to give its contradictory (~p), traditional term logics have two forms of negation: one can negate either of the two terms (subject or predicate terms) making up the sentence, or one can deny rather than affirm the predicate of the subject of the sentence.[30] Term negation produces the contrary of the term negated—for example, negating the predicate term "beautiful" would produce a term having the meaning "non-beautiful," effectively the term "ugly."

[26] Translated in Kant 1992.

[27] Michael Wolff is one of the few interpreters of Hegel to point to the importance of Kant's early essay. The introduction of the concept of real negation in this essay, he points out, "was of great (though little understood) significance for Kant's later philosophy, and also for post-Kantian, Hegelian, and materialist dialectic" (Wolff 1999). While Wolff illuminatingly brings out the mathematical and mechanical dimensions of Kant's account of real negation, he fails to do justice to its Aristotelian logical dimensions.

[28] Kant 1992, 211.

[29] For example, a ship sails from Portugal to Brazil, and the miles traveled under conditions of an east wind can be designated by +, while those traversed when the ship is blown back by a west wind can be designated by –. The miles traversed westward by the ship are themselves just as real as those traversed eastward, but one might count them as "negative" in opposition to the "positive" eastward miles in the context of the ship's journey.

[30] For a helpful discussion of Aristotle's "two negations," see Horn 1989, ch. 1.1; for an extended treatment of a contemporary form of logic using term negation, see Sommers 1982 and Sommers and Englebretsen 2000.

In contrast, denying rather than affirming a predicate of a subject produces a sentence that is contradictory to the affirmation. Thus, affirming a contrary predicate of a subject (affirming that Socrates is ugly rather than beautiful, for example) is different from denying the original predicate (asserting that Socrates is not beautiful). Kant's idea of bipolar real negation would in fact continue to play an important if somewhat ignored role within the transcendental logic of the *Critique of Pure Reason* itself, being expressed, for example, by the third of the three categories of quality (limitation) as well as of relation (community).

Thus it would seem there are two dimensions of the determination of concepts in Kant's transcendental logic—one that is dependent on some non-conceptual empirical content being given via the singular representations of intuition, and another in which determination is dependent on contrastive relations between contents that are already conceived as conceptual in some way.[31] This contrast, I suggest, is crucial to Hegel's way of generating an ontology (a content) from the structures of logic itself. A key to understanding this is found in his distinction between the categories of singularity and particularity, a distinction based in Aristotelian logic but largely invisible from the perspective of modern reflective (propositional) logics.

SINGULAR, PARTICULAR, UNIVERSAL

Hegel seems to be at his most reactionary when he appeals to the dialectical logic of reason to grasp such things as religious truths that escape the logic of the modern scientific point of view, the logic of what he calls "the understanding." One such example is his linking of his three basic logical categories, universality, particularity, and singularity, after the Christian doctrine of the Trinity.[32] Hegel's notorious use of this triadic structure has a more genuinely logical provenance, however, and can be seen as a consequence of his attempts to integrate ancient term logic and modern proposition-based logic, as suggested above.

[31] See, for example, Kant's distinction (in the discussion of the transcendental ideal) between the merely logical principle of determinability and what he calls the "principle of *thoroughgoing determination* [*Grundsatze der durchgängigen Bestimmung*], according to which, among *all possible* predicates of *things* [*Dinge*], insofar as they are compared with their opposites [*Gegenteilen*], one must apply to it" (*Critique of Pure Reason*, A571–72/B599–600). See also the discussion of this in Tiles 2004, 111–14.

[32] The "concept as such" Hegel describes in the *Encyclopaedia Logic* (§161) as containing the moments of universality, particularity, and singularity, which in the *Lectures on the Philosophy of Religion* (362) are identified with the "kingdoms" of the Father, Son, and Spirit, respectively. Even in discussing these conceptual determinations logically, Hegel's vocabulary is redolent with theological terminology. See, for example, his description of the universal as "free power" which "takes its other within its embrace, but without *doing violence* to it" or as "*free love*, and *boundless blessedness*, for it bears itself towards its other as towards *its own self*" (*Science of Logic*, 603).

For Aristotle, the singular and particular judgment forms are importantly different. Thus, in his threefold distinction of judgment forms in chapter 7 of *De Interpretatione*, the first group is described as containing judgments about individuals (singular judgments) while the second and third groups contain judgments about universals.[33] Judgments of the second group, he says, are about universals—say, about the species man, rather than about individual men such as Socrates—and they express truths about those universals by being made universally about its members. In contrast, those of the third group, while also judgments about universals, are made non-universally—as in "man (as such) is mortal." While Aristotle does not explicitly refer to particular judgments here, it has been convincingly shown that they, along with judgments about universals made universally, properly belong to the second group.[34] Particular judgments, it would seem, rather than being judgment about individuals per se, are judgments about universals, but made in a non-universal way. Particular judgments are made partially about a universal or species, by way of reference to some rather than all of its members (literally, individuals are referred to as part of the universal).[35]

Strictly speaking, there is no role in syllogisms for the singular judgments of group one: the syllogism provides no way of reasoning about individuals as such. Rather, syllogistic reasoning maps relations among universals. The particular judgment form can appear in syllogisms precisely because it is a form of judgment about universals. Traditional logicians had, of course, been aware of the problem posed by singular judgments for syllogisms, and the standard solution had been to treat singular terms as universals on the grounds of certain common logical properties shared between their respective (universal and singular) judgment forms.[36] In recent times, this move has effectively been revived by Quine.[37] Leibniz too had followed this practice, but he had also used the Aristotelian particular judgment form as way of referring to individuals alongside the standard scholastic treatment of singular

[33] Aristotle, *On Interpretation*.

[34] Whitaker 1996, 84–89.

[35] Judgments "partially made" is Whitaker's apt term (1996, 86). Preserving the etymological link between "particular" and "part," for Aristotle a particular affirmative judgment affirms the predicate of part only of that totality of members of the universal for which the predicate is affirmed when it is affirmed universally, and so, like the concept "part," it depends for its sense on the idea of the judgment's being made universally.

[36] For example, both universally affirmative judgments and affirmative singular judgments can be considered alike inasmuch as they are both exceptionless. Kant alludes to this treatment of singular judgments in the *Critique of Pure Reason*, A71/B96.

[37] Quine (1960, 181) links his construing names as general terms with "the attitude of logicians in past centuries" who "commonly treated a name such as 'Socrates' rather on a par logically with 'mortal' and 'man,' and as differing from these latter just in being true of fewer objects, viz. one."

terms simply as universals. Moreover, he regarded singular and particular judgment forms as equivalent.[38]

Leibniz's practice thus draws attention to an alternative way of securing an empirical referent for the subject term besides the use of a proper name, since a particular judgment form will be able to be used to pick out an individual as an instance of (or part of) a species, as when the individual Socrates is picked out by a noun phrase such as "this man" or "a certain man." In contrast to Leibniz, however, Kant insisted on preserving the distinction between strict singular reference through intuitions and the type of reference that is mediated conceptually—that is, he distinguished between the referent's being picked out qua singular and qua particular. While a concept is necessarily part of the judgment's subject term at the surface level, the judgment can be understood as having an underlying logical structure such that reference is secured through intuitions, the only properly singular form or representation.[39] But if the alternative idea of securing reference to individual objects through the particular judgment form was open to Kant, why, we might ask, did he then insist on the further separation of concepts and intuitions? Could not a referent picked out by a demonstrative phrase establish the necessary relation of judgment to the world without any further appeal to intuitions as radically non-conceptual representations?

The clue here has to do with Kant's claim about the systematic nature of all knowledge—the idea that all true judgments must be conceivable as logically united within a "transcendental unity of apperception" in virtue of which they are judgments about the one world.[40] Were some ineliminable judgments to gain their reference to the world via a demonstrative concept term, a "this such," the necessary indexicality of such judgments would then seem to compromise the very unity of the world as presented in the

[38] This is remarked upon by Sommers (1982, 15): "Leibniz has an interesting variant of the traditional doctrine that singular terms are syntactically general. According to Leibniz, 'Socrates is mortal' is a particular proposition whose proper form is 'Some Socrates is mortal.' But 'Some Socrates is mortal' entails 'Every Socrates is mortal' so we are free to choose either way of representing the sentence. Leibniz thus views the singular proposition as equivalent to the particular proposition that entails a universal one."

[39] For Kant the subject term of a properly cognitive judgment contains a (necessarily general) concept. (The only properly singular judgment in Kant is an aesthetic judgment, which is not genuinely cognitive.) When one takes into account the role of intuitions, this gives to the judgment a different underlying logical structure. See the perspicuous discussion of this in Longuenesse 1999, 90, 90 n. 20.

[40] Thus Kant describes a concept as resting on a function, by which is understood "the unity of the action of ordering different representations under a common one" and as hence "grounded on the spontaneity of thinking" (*Critique of Pure Reason*, A68/B93). Judgments are described as "functions of unity among our representations, since instead of an immediate representation a higher one, which comprehends this and other representations under itself, is used for the cognition of the object, and many possible cognitions are thereby drawn together into one" (ibid., A69/B94).

totality of true judgments about it. The "transcendental unity of apperception" is by necessity universal, and hence cannot be identified with a particular point of view within the world that it is concerned with making known. But while these two approaches to the determination of judgments are present in Kant, the relation between them is very obscure. Hegel's more explicit use of the idea of singularity, particularity, and universality as the three moments of the concept is meant, I suggest, as a way of making these relations explicit.

Hegel's thought here is complex and far from lucid, but it is nevertheless suggestive. On one hand, he wants to give a place within thought to a form of judgment that has this Aristotelian particular judgment structure, that is, the structure of an egocentric or perspectival judgment predicating one from among a group of contrary properties of an object *qua* instance of some species. The object of predication so conceived is essentially the structure of what Hegel describes in the *Phenomenology of Spirit* as the object of "Perception." Such immediate judgments about such objects do not have a straightforwardly propositional content but are articulated by the features of term logic. On the other hand, he wants to keep a place for judgment forms more like those Kant needs to conceive of how judgments can be integrated within a coherent "transcendental unity of apperception." This will be the structure of those reflective judgments belonging more to what he calls "Understanding": here the content of such a judgment form is more propositional than objectual, and such judgments will be correlated more with abstracts feature of the world—facts or state of affairs—rather than any individual object in the everyday sense of the word.

A LOGIC FOR OBJECTS, A LOGIC FOR FACTS, AND LOGICAL LIFE

In the first three chapters of the *Phenomenology of Spirit*, Hegel charts the progress of a conscious subject though a series of what we might think of as separate epistemic-ontological attitudes that he labels "Sense-certainty" (*die sinnliche Gewissheit*), "Perception" (*die Wahrnehmung*), and "Understanding" (*der Verstand*).[41] Each of these

[41] Consciousness had started out taking the immediate qualitatively determined "this" of Sense-certainty as the truth of its object and had come to learn that such immediately perceivable quality is just an aspect of the more complex object of Perception. In contrast to the simplicity of the "this" of Sense-certainty, the perceived object has an internal structure such that an underlying substance has changeable phenomenal properties. But in turn Perception learns that that its object is in truth more complicated again, the distinction between it and Understanding roughly enacting the distinction between the everyday commonsensical and scientific or nomological views of the world. While from the point of view of Perception we might think of the world as simply an assemblage of propertied objects, from the point of view of Understanding, such objects will be integrated as interacting components of a single, unified, law-governed world.

attitudes is a version of a generally realistic orientation within which that which is known within experience is taken to be an independent "in-itself" (*das Ansich*). That is, the attitude of consciousness is to take things as experienced as being just as they would be "anyway," were they not being experienced.[42] Each shape, therefore, represents an attitude that is properly ontological or metaphysical.

The attitude of Sense-certainty takes as true a type of singular content purportedly given immediately in experience and hence presented as a "pure 'This.'"[43] But Hegel attempts to show the incoherence of the idea of anything being so given and yet "determinate" or cognitively relevant. To be determinate, one needs contrast or negation, and this content is meant to be grasped independently of such relations. It is the very immediacy of these supposed phenomenal contents that precludes any relations of identity or difference from being established among them, but without any specifiable grounds of relations of identity or difference they cannot be distinguished, and hence they pass over into each other. Effectively, this constitutes Hegel's anticipation of more recent critiques of the "Myth of the Given."

The collapse of Sense-certainty as a cognitive attitude will result in its being replaced by a new shape of consciousness, Perception. What Sense-certainty had taken as a singular, simple "this" has now become a property inhering in an abstract universal medium or substrate. The perceptual object is an instance of a kind—a "this such"—and so instantiates particularity. In the first instance, says Hegel, the properties will be taken as simply inhering in the medium in a way that makes them indifferent to each other, but if all such properties were in fact indifferent to each other in this way, they could not be determinate, "for they are only determinate in so far as they differentiate themselves from one another, and *relate* themselves *to others* as opposed [*als entgegengesetzte*]."[44] This is where the principle of term negation manifests itself: in Hegel's example, "white is white only in opposition to [*in Entgegensetzung gegen*] black, and so on."[45] The very existence of things determinately colored F must then presuppose the existence of things determinately colored non-F: "the point of singularity [*Einzelheit*] in the medium of subsistence" therefore must "radiat[e] forth into plurality."[46] But the object so conceived in turn shows itself to be incoherent and (like Aristotle's own thoughts about primary substances) develops into more complex conceptions of the

[42] These various shapes of consciousness had been differentiated by their respective assumptions regarding the fundamental characteristics of that independent in-itself.

[43] *Phenomenology of Spirit*, §91.

[44] Ibid., §114.

[45] Ibid., §120.

[46] Ibid., §115. The idea is that if, say, the world were monochromatically colored red, then from the point of view of perception, it could not even be thought to be red. Being (determinately) red requires the existence of other, non-red things.

structure of such perceivable objects, and is ultimately, with the transition to the Understanding, replaced by something like nomologically interacting forces—the distinction between Perception and the Understanding roughly enacting the distinction between the everyday commonsensical and modern scientific views of the world.[47]

The logic of the purely conceptual relations existing among these thought determinations, but now abstracted from the concrete form in which they are presented to a consciousness in the *Phenomenology* and thus free of any empirical determination, is charted in Hegel's *Science of Logic*. Of course, the lack of empirical determination does not exclude such logic from having a content, and the apparent ontology in which *the Science of Logic* appears to terminate in Book 3 represents Hegel's equivalent to the transcendental content of Kant's logic. The first two books of this work can be considered as Hegel's category theory, which, like Kant's, is meant to be objective in the sense that its thought determinations are considered to be equally determinations constituting the transcendental structure of the things that thought is about, but unlike Kant's in that no longer are they to be considered the mere appearances behind which unknowable things-in-themselves stand.[48] Moreover, while Kant's synthesis of ancient and modern positions in logic might be described as in some sense ad hoc and unconscious, Hegel's is clearly very conscious. Here as elsewhere, Hegel's position was that of the self-conscious mediation of what he understood as the "immediate" characteristics of ancient thought (in this case, the mediation of the term logic reflected in the opposed categories of Book 1, the logic of being) with the "mediation" characteristic of modern thought (here the modern propositionally based approaches to logic reflected in the structures of Book 2, the logic of essence).

It must be remembered that Hegel refuses the modern reflective starting point in which all things mindly (concepts, knowledge, etc.) and all things worldly (objects, facts, etc.) are conceived as radically separate and yet determinate, and their relations then inquired into. Nevertheless, the content generated from logic itself will need to be such that we can understand how the world can be known, conceived, reflected upon, and so forth from somewhere within it. It is not surprising, then, that Hegel's logical categories will fit a more or less organic worldview within which we might think of mind as somehow immanent. More particularly, however, Hegel's way forward here will be essentially to ground cognitive processes in something like the pragmatics of socially based and rule-governed language games that is central to his notion of "objective spirit."[49] In this

[47] Or alternatively, the understanding could be thought of as parallel to the specifically scientific type of knowing that Aristotle refers to as *episteme*.

[48] Again, Hegel's is unlike Kant's given Hegel's own understanding of Kant. On the more Fregean reading of Kant, it is misleading to regard Kant in this way.

[49] This aspect of Hegel's position is brought out strongly in Terry Pinkard's (1994) thesis of the "sociality of reason."

regard, the role of what Hegel describes as the "recognition" holding between finite embodied and socially located subjects is crucial for understanding his approach to the human capacity for reflection and thought. There will thus be a sense in which a life of the mind is immanent within or emergent from his somewhat organic conception of the world. This has led some interpreters to think of Hegel's starting point as a type of metaphysical philosophy of nature, and to consider his approach to thought itself, and hence to logic, as somehow derived from this organic metaphysics.[50] On the opposed post-Kantian approach, however, this is to reverse the relation between Hegel's logic and his metaphysics. Hegel's task is to, in some sense, derive what is taken to be his organic metaphysics from the immanent development of a content for logic. While it is clear that the feature central to this logical derivation, Hegel's notorious use of contradiction, is clearly thought of as a type of organic feature of thought, for the post-Kantian reading this must not rely on any independently conceived organicist metaphysics, but rather must have a properly logical origin. Again, it would seem, his attempt to combine determinations of term and proposition logics and their differing accounts of negation is crucial here.

THE ROLE OF CONTRADICTION IN HEGEL'S LOGIC

One of Hegel's constant complaints about the type of cognition characteristic of the Understanding is its static, mechanical, and lifeless nature, which he contrasts to a much more organic and animated dialectical form of thinking.[51] Notoriously, he here appeals to contradiction to capture the vitality of thought.[52] In the history of logic, what is appropriately called the "law of non-contradiction" is commonly called the "law of contradiction," but when Hegel appeals to his law of contradiction, the title is appropriate. The law that Hegel calls the law of contradiction states that everything is contradictory. It is a law, Hegel says, that expresses the "truth and essential nature of things."[53]

[50] Something like this position is represented in current debates by Frederick Beiser. See, for example, Beiser 2005.

[51] For example, Hegel accounts for the "lifeless," "dull," and "spiritless" content of the modern reflective version of logic, in that "its determinations are accepted in their unmoved fixity and are brought only into an external relation with each other. In judgments and syllogisms the operations are in the main reduced to and founded on the quantitative aspect of the determinations; consequently everything rests on an external difference, on mere comparison and becomes a completely analytical procedure and mechanical [*begriffloses*] calculation" (*Science of Logic*, 52).

[52] "Contradiction is the root of all movement and vitality it is only in so far as something has a contradiction within it that it moves, has an urge and activity" (ibid., 439).

[53] Ibid.

While most defenders of Hegel claim that he does not deny the law of non-contradiction,[54] for Priest it is his dialethist denial of this law that marks the advanced nature of his logical thought.[55] However, it is far from clear that Hegel means by "contradiction" what modern logicians typically mean (the conjunction of contradictory propositions), as Hegel does not assume propositional logic as fundamental. Rather, he attempts to integrate structures of term and propositional logics, each with their differing senses of negation.

Aristotle sometimes seems to invoke the modern idea of contradiction, but this is misleading, as he did not have the modern notion of negation as an external operation applied to a propositional content and so could not consider sentences of the type "p and ~p." Where he apparently refers to a contradictory pair of propositions,[56] he typically means statements that result from simultaneously affirming a predicate of a subject and denying that predicate of that subject.[57] As Laurence Horn points out, "We should be aware that any translation of the term logic operation of predicate denial into the one-place truth-functional connective of propositional (or sentence) negation cannot faithfully render Aristotle's vision."[58] Since, as I have argued, Hegel's fundamental logical idea, the idea of determinate negation, is derived from Aristotle's alternative to modern propositional negation, it would seem unlikely that Hegel too could mean by contradiction exactly what modern logicians typically mean by the term. But what then does he mean by it?

Hegel expresses the law of contradiction in terms that seem primarily ontological rather than logical, concerning as it does the contradictoriness of all things rather than of judgments or propositions. However, as has been stressed, here we can read Hegel's ontology as expressing his logic: the things that are contradictory are things as articulated within the evolving set of "thought determinations" traced throughout *the Science of Logic*. We might understand this by considering the fate of an object that is first grasped as a perceptual object and then thought and reasoned about. If what we have seen of the term-logical determinations of perceptual objects and the more propositional determinations of objects reasoned about is correct, then there is a very real sense in which such objects must change despite being the same—must be, in Hegel's sense, contradictory.

[54] According to Brandom, for example, rather than deny the law of not-contradiction, Hegel "places it at the very center of his thought" (Brandom 2002, 179).

[55] Of course paraconsistent logics do not accept "p and ~p" for *all* sentences p. Specifically, paraconsistent logics are posited as ways of dealing with such logical paradoxes of the form "This sentence is false" (a version of the liar paradox).

[56] As, for example, in Aristotle, *On Interpretation*, 17a30.

[57] "We mean by affirmation a statement affirming one thing of another; we mean by negation a statement denying one thing of another" (ibid., 17a27).

[58] Horn 1989, 21. It is commonly argued that the Stoics invented propositional logic.

Hegel clearly conceives of dialectical interactions between normative claims to the truth of beliefs or the rightness of actions as central to his pragmatics of language use. Consider, then, a situation in which a particular immediate claim on the part of one subject, such as "This A is F," is met with opposition from the point of view of another perspectivally located subject for whom this A is experienced as having some other contrary quality and for whom it is thus some non-F.[59] (For example, my immediate perceptual response is to describe this tie as blue, while yours is to describe it as green.) But when the opposing opinion is expressed in relation to the first claim, this counter-claim typically will be put as a denial: "This A is not F." ("This is blue" will now be met with "This is not blue.") But this in turn must affect the interpretation of the original claim, as while it was initially immediate, it too is now a mediated claim. It is now maintained in the face of its denial ("It's not the case that this is not blue").

The original judgment, which was understood as being some immediate reflection or representation within thought of the nature of its object such that its subject-predicate structure corresponded to the substance-attribute structure of the perceptual object, must now be reconceived as being contrastively determined by its contradictory within the logical space of reasons. Effectively this new conception of the content of the judgment is conceived by Hegel in essentially propositional terms such that negation is regarded as an external operation. We can appreciate the reasons for this by looking to Frege, who claimed that we must consider negation to be an operation that applies to complete propositions if we are to understand propositions in non-assertive contexts such as interrogatives and hypotheticals. That is, in reflecting on a claim, we must understand its content independently of the question of its actual truth or falsity.[60] If we think of the proposition p as the content of a question "p?" whose possible answers are "p" and "~p," then the proposition p, without the sign of assertion or negation, must be taken to be the understandable sense of the question.

It is significant that in his comments on the law of the excluded middle, which in Aristotle is expressed as "of one thing we must either assert or deny one thing,"[61] Hegel argues for the existence of a "third" that is indifferent to the opposition he describes as A and not-A. This third is A itself without the + or – that marks the affirmation or denial of A.[62] When Hegel describes it as "the unity of reflection into which the opposition withdraws as into ground," this suggests something like the unity Frege gives to a propositional content that must be able to be understood in abstraction from its

[59] This is brought out most clearly in Hegel's discussion of the evaluative "judgment of the concept" in *Science of Logic*. See note 64 below.

[60] See, for example, Frege's discussion of the question "Is the Sun bigger than the Moon?" in his classic paper "Negation" (1997, 347–48).

[61] Aristotle, *Metaphysics*, 1011b24–25.

[62] "This *A* is neither +*A* nor –*A*, and is equally well +*A* as –*A*" (*Science of Logic*, 438–39).

being judged true or false. It is this conception of the content of a judgment that is the heir to Kant's contextualization of judgments within the transcendental unity of apperception.

Such a signless content of a belief fits with the content in relation to which the rational asserter must come to stand under conditions of dialectical contestation. Faced with a counterasserted denial, the asserter is thereby confronted with the two opposed beliefs that stand as contradictories, p and ~p, and must deal with the dilemma that both cannot be believed at the same time. The subject is forced into reflection to judge which of the two propositions, p or ~p, is correct, and this change of stance requires a complete modification of its conception of the nature of that original object of knowledge. Originally it had been conceived as unproblematic and as immediately available to the subject: one simply had to observe how the thing was in order to know its properties. It was simply F and not non-F. Now, however, the object is grasped as that which is possibly F *or* possibly not F. If it is F, it will have to be understood as that which was responsible for its appearing to the other to be not F; if it is not F, it must be understood as that which was responsible for its originally appearing to be F.[63] The known object will develop through many further categorial transformations beyond these, but at least this transition allows us to understand the contradictory nature of such objects for Hegel. From the modern model-theoretic perspective, for example, thinking of the object first in terms of its particularity and then in terms of its singularity will appear to conflate a class that has a single member with that member.

CONCEPT AND OBJECT, MIND AND WORLD

Regardless of Hegel's attempts to specify how thought will gain a determinate content by being self-determining under dialectical conditions in which individual claims are developed in the face of counterclaims, is it not still the case that in his refusal of the concept-intuition distinction Hegel shows his commitment to an implausible metaphysical view of the totality of things as a self-referential super-mind whose thoughts need not and cannot go beyond itself? This was just the distinction that Kant had attempted in order to connect concepts to a world beyond them, and without it Hegel can seem to lose just the distinction that Frege insisted upon between objects themselves and the concepts we have about them.

[63] Clearly, the object is now being treated as the subject of a reflective judgment whose inner non-apparent properties are manifested in terms of the effects the thing has on other things, namely, human perceivers.

That this criticism rests on a mistake, however, can be appreciated by again invoking the singular-particular distinction. If we pose this question from the reflective point of view that we moderns seem to adopt instinctively, then Hegel is surely in agreement with the idea that in judgments, concepts are ultimately applied to something external to thought, for here "concept" and "thought" are meant in the subjective sense. The concepts applied to objects or the thoughts entertained about them are the concepts and thoughts of particular, finite subjects, and the correctability of these testifies to the independence of that which they are about.

In his account of the forms of judgment in Book III of *The Science of Logic*, the final, most developed form of judgment is the explicitly evaluative judgment in which predicates such as "good," "bad," "true," "beautiful," "correct," and so on are applied to objects.[64] What distinguishes this form of judgment from the immediately preceding judgment is the moment of singularity in the subject term. The preceding judgment form, the disjunctive judgment, specifies the array of mutually limiting particulars into which a kind or species is differentiated: "colour is either violet, indigo, blue, green, yellow, orange or red."[65] Such a necessary judgment is neither empirical nor analytic, but rather something like a Kantian synthetic a priori judgment.[66] Hegel says of this judgment form that its moments "do not confront one another in determinate self-subsistence" and that "although objective *universality* has completed itself *in its particularization*," the unity of the judgment "has not yet determined itself to the third moment, that of *singularity* [*Einzelheit*]."[67] In contrast, in the assertoric judgment form, which is the immediate form of the judgment of the concept, the content is posited as a determinate relation between the moments of a subject "as an immediate singularity [*ein unmittelbar Einzelnes*]" and a predicate.[68]

Hegel portrays the initial manifestations of these judgments of the concept *as subjective and problematic because* each will be based only on some bare assurance (*Versicherung*) that is able to be "confronted with equal right by its opposite [*die entgegengesetzte*]. When one is assured that 'this action is good,' then the opposite assurance, 'this action is bad,' has equal justification [*hat . . . gleiche Berechtigung*]."[69] Such judgments will be initially based on some contestable, immediately felt assurance

[64] *Science of Logic*, 657–58. Such judgments "express that the thing is *measured* against its universal concept . . . and is or is not, in *agreement* with it." Ibid.

[65] Ibid., 656.

[66] The disjunctive judgment is a subtype of the judgment of necessity, of which the initial, more analytic form is the categorical judgment ("The rose is a plant").

[67] *Science of Logic*, 658.

[68] Ibid., 659.

[69] Ibid., 660. Miller has here "contradictory" for *entgegengesetzte* despite the fact that "good [*gut*]" and "bad [*schlect*]" are a typical pair of polar contraries, not contradictories.

as to their rightness, and as such, they can be met by their contraries offered in judgments by others who can have opposed assurances that they feel to be equally justified. Here it is the singularity of the object judged in its abstraction from any concept that is associated with the "merely subjective element in the assertion," some "external third factor" that makes the connection between the object and the universal applied to it "externally posited."[70]

The clear suggestion here is that the concrete thing in its singular determination has an effect on the judgment, but it is not efficacious in the sense of playing the role of an intuitive given that secures a truth about the object that is known with certainty. It produces certainty merely in the sense of a subjective assurance that will bring the judge into conflict with other similarly assured judges with different certainties. But this is just the dialectical situation that, as we have seen, forces reflection and the search for justifications that can initiate self-correction. Hence it is essential that a concept applied by any particular finite judge is brought into contact with the world considered as external to his or her concept. But in another sense, of course, the singular object judged and the world to which it belongs are not beyond the sphere of conceptuality, precisely because in predicating the concept of the concrete thing in its singularity, the judge becomes aware of (posits) that thing in the determination of singularity, and therefore as external. As Hegel puts it in the discussion of Sense-certainty in the *Phenomenology of Spirit*: "An actual Sense-certainty is not merely this pure immediacy, but an *instance* (or example [*Beispiel*]) of it."[71] Anything present to us as bare "this" is nevertheless present as an instance of the determination of singularity, an exemplification of "thisness" in general. But is there any reason to demand some further, stronger sense of the externality of the world? A Hegelian answer here would be that anything stronger indicates the metaphysically skeptical picture of an unbridgeable gap between concept and a world-in-itself. But if we have formed the concept of a gap here, then it is clearly not unbridgeable.

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[70] Ibid., 659.

[71] *Phenomenology of Spirit*, §92.

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8

BOLZANO'S UNIVERSE
METAPHYSICS, LOGIC, AND TRUTH

Arianna Betti

I. INTRODUCTION

What Bernard Bolzano is known for, many a philosopher would tell you, is a Platonistic notion of proposition akin to Frege's *Gedanke*. Moreover, his logic, they would add, is incomparably better than the logic of any of his contemporaries. Hardly anyone would have any special mention, however, for Bolzano's metaphysics—that is, for his views on objects, properties, and relations and their mereology in general. Indeed, until recently Bolzano scholarship concentrated on logic, with particular attention to the theory of variation, and in this body of contributions metaphysical considerations play a marginal role, if any. Thanks to a handful of publications from the last decade, however, Bolzanian metaphysics has begun to receive more attention than ever before.[1]

It is not difficult to show why Bolzanian metaphysics matters. Bolzano's logic builds on firm ontological and mereological foundations. Logic as a science has a realm of its own, that of the *an sich*, in the strong sense that logic is the science of a special kind of object, namely, propositions-in-themselves and ideas, and their qualities. Furthermore, the edifice of logic rests on a mereological conjecture regarding the basic form of propositions and is constructed by exploiting mereological relations between propositions and ideas, plus a device of semantic ascent, involving very special ideas with very special qualities, called symbolic ideas.

The first and main aim of this essay is to present an overview of Bolzano's universe from the point of view of his metaphysics and its relationship to logic, relying fundamentally

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[1] Among others, Künne 1998; Schnieder 2002; Textor 2004.

on his major work, the *Wissenschaftslehre*. This I shall do in sections II–VI. Although these sections are chiefly intended as an exposition of the state of the art on the matter, I shall make no secret of preferring a reading of Bolzano as a "Platonistic nominalist," as Textor puts it—as a Platonist about propositions and a nominalist about properties.[2] My second aim, in sections VII–IX, shall be to answer the open question of whether in Bolzano there is any "ontology of truth," as one may call it, though with some hesitation.

II. BOLZANO'S UNIVERSE: FOUR REALMS, TWO BOXES

One can think of Bolzano's universe as consisting of four realms: the realm of linguistic objects, the realm of mental objects, the realm of objects-in-themselves (*an sich*)—or, as I shall say, the lektological realm—and, most generally, the ontological realm, composed of all objects, including (but not reducible to) all those in the realms just mentioned.[3]

This four-realm analysis should not be taken as a partition of Bolzano's universe into either metaphysical categories or ways of being. Such a partition would break up Bolzano's ontology in two ways-of-being boxes, as it were. The first box would contain objects that exist (*existieren*), have *Dasein* (§34 I 154), are effective (*wirklich*, §79 I 362, 366; §275 III 16; §142 II 65; AT 85), or are real (*real*).[4] The other box would contain objects that do not exist, don't have *Dasein*, or are not effective or real, though Bolzano makes clear that ideas and propositions *gibt es*. *Es gibt* is properly said of everything that counts as an object in his universe (§50 I 222, §70 I 319), in both boxes.

The four realms and the two boxes interlock in this way: the linguistic and the mental realms contain only existing objects; the lektological realm contains only non-existing objects; the ontological realm contains just all, so objects of both kinds. Any linguistic expression you may produce, say by writing on the margins of this paper or by talking to your landlady, exists, and any of your mental acts, be it a glorious vision of a piece of Queen of Sheba cake, a craving for Pilsner Urquell, or a judgment that you should change your life and finally call the piano tuner, exist as well. You and the shade of your

[2] Textor 2004, 10. That Bolzano is a Platonist about propositions is the predominant view, which I follow here. Among those who disagree, cf. Cantù 2006, 10.

[3] For "lektological," cf. Casari 1992, 56.

[4] References to the *Wissenschaftslehre* (Sulzbach, J. Seidel, 1837; now in *Bernard-Bolzano-Gesamtausgabe* (GA) 1 11–14, ed. J. Berg, Stuttgart/Bad Canstatt, Friedrich Frommann Verlag/Günther Holzboog, 1985–2000) are made to the paragraph, followed by the indication of the volume and the page of the original print. The following works are also used: GL = *Größenlehre* (Einleitung, Erste Begriffe) GA 2A 7; BE = *Der Briefwechsel B. Bolzano's mit F. Exner*, Prag, 1935; PU = *Paradoxien des Unendlichen*, Hamburg, Meiner, 1975; AT = *Dr. B. Bolzano's Athanasia oder Gründe für die Unsterblichkeit der Seele*, Minerva, Frankfurt/Main, 1970; VZ = *Verbesserungen und Zusätze zur Logik*, GA 2A 12/2. English translations from German are mine.

skin—objects that are neither linguistic nor mental—exist. Things like that, Bolzano would say, are located somewhere, and at some time, and can be cause or effect in a causal chain (§272 III 10). None of this holds of lektological things, though lektologica subsist (*bestehen*) in the universe "as a certain *something*" (§48 I 217).[5]

Lektologica include propositions-in-themselves (*Sätze an sich*), or as Bolzano often says, propositions. The notion of proposition is primitive, and the notion of presentation-in-itself (*Vorstellung an sich*), or, as I shall say from now on, idea, is mereologically derived from it; an idea is that part of a proposition that is not itself a proposition (§48 I 216 2; BE 67). Propositions are distinct from their real mental counterparts, namely, judgments (*Urteile*), and ideas are distinct from their real mental counterparts, namely, subjective presentations (*subjective Vorstellungen*).[6] Subjective presentations and judgments contain or have as matter, respectively, ideas (§48 I 217; §56 I 244) and propositions (§291 I 108). Two subjective presentations are identical (*gleich*) when they have the same idea as matter (§91 I 428), though they may differ as to clarity, duration, vivacity, and so on.[7] Likewise, two judgments are identical when they have the same proposition as matter (§34 I 155; §292 III 112). Propositions and ideas are also the sense (or meaning in a restricted sense) of linguistic expressions (§28 I 121) and subsist independently of being expressed linguistically or thought in a mental act.[8]

The most interesting characteristic of ideas is their semantic character: they may or may not refer to something.[9] In case they do, they are objectual; in case they don't, they are objectless (§66 I 297), like [round square], [green virtue], [nothing] (§67 I 304).[10] Objectual ideas may refer to exactly one object, like [Brigitte Fassbaender], in which case they are called singular, or to more than one, like [singer], in which case they are called common (§68 I 308). It is of fundamental importance to realize that Bolzano

[5] Note that Bolzano does not have, in addition to existence, *Bestehen* as a quality that would be for lektologica what existence is for realia, for Bolzano applies *Bestehen* to both lektologica and realia (§48 I 217; §272 III 10–11), and does the same with *es gibt* (§30 I 144; §142 II 66) and with words such as *Vorhandenseyn*. We might see what is *vorhanden* as breaking up into what is effective and what is non-effective, but the important thing to keep in mind is that Bolzano does not set "being an object" apart from *Vorhandenseyn*: unlike Twardowski's and Meinong's later views, for Bolzano round squares aren't objects at all. See also p. 11 below.

[6] By "judgments" Bolzano normally means *acts* of judgment; cf. Schnieder 2002, 44 n. 17.

[7] Two identical (subjective) presentations are not yet the same presentation; *x* and *y* are the same presentation iff *x* has the same content as *y* and both are adherences of the same person at the same continuous period of time (§278 1, III 13).

[8] The relation between a linguistic sentence and the proposition expressed by it is more complicated than the relation of containment between a judgment and a proposition, and requires a symbolic idea as go-between. See below. Cf., for a first approach, §285; Casari 1992, 71–72.

[9] Or, as some might prefer, quasi-semantic character; cf. Textor 1996, 43.

[10] Following a common use among Bolzano scholars (but not Bolzano's own), I shall use square brackets to designate ideas and propositions.

accepts plural reference; that is—in line with the tradition, but differently than many tend to think now—that an idea like [coin], far from referring singularly to a property, refers distributively to all coins, one by one. The extension (*Umfang*) of an objectual idea is the collection of the objects to which that idea refers, or, one can say, those that fall under it, while its width is, roughly, the cardinality of that collection (§66 I 298): the extension of [H. K. Gruber] is H. K. Gruber, and its width is 1.[11] A crucial element in Bolzano's theory of reference and of his semiotics and a cornerstone of his logic is the notion of "symbolic idea" (§90 I 426–28), that is, an idea that refers to (an)other idea(s) or proposition(s), for instance [truth] or [idea].

III. OBJECTS AND QUALITIES

In Bolzano's universe every object is either had by or belongs (*zukommt*) to some other object, in which case it is a quality (*Beschaffenheit*), or it is not had by or does not belong to any other object, in which case it is a pure object.[12] Bolzano admits both ideas of pure objects, like [Erwin Schulhoff] and [Erwin Schulhoff's favorite Petrof], and ideas of qualities, like [blueness] and [mellowness]. For Bolzano there are no qualities that do not belong to any object.[13] And there are also no "Musilian" objects, to use an expression of Casari's—no objects without qualities (or bare or thin particulars).[14] Every quality is an object but not vice versa, and every object that is not a quality is a pure object. Propositions and ideas are, for instance, pure objects. Existing pure objects are substances (§272 III 11; AT 21), and existing qualities are adherences (§119 I 563; AT 21).

It is worth noting that Bolzano is said to oscillate between two conceptions of substance. According to the first, narrow one, substances are simple pure objects existing at all times, while according to the second, broader conception, substances may also be complex (among the simple ones are souls and God). Some aggregates can be called substances only on the broader conception, according to which living beings and their parts, along with inanimate objects such as watches, books, and bouquets of flowers, are substances.[15]

[11] See also note 22 below.

[12] On qualities as *quodcunque habetur*, cf. §80 I 379–80; GL 98, 73v; Casari 1992, 55–56. Cf. also, against this, the discussion in Schnieder 2002, 71; Textor 1996, 56ff.; Textor 2004, 2ff.; and note 13 below.

[13] This has been disputed by Berg (1990, 136) on the basis of §238 II 456, where Bolzano speaks of a quality not belonging to any object; cf. also Berg (1992, 56), followed by Textor 1996, 61; Künne 1998, 239; and Schnieder 2002, 79, 81–82. I follow Casari (1991, 9) in taking this to be at most a *lapsus calami* (not being Bolzano's only one; cf. Schnieder 2002, 98 n. 1).

[14] Cf. Casari 1992, 55. Cf. also Schnieder 2002, 187–88; AT 85; and Schnieder 2002, 67 nn. 37, 38.

[15] Schnieder 2002, 176, 229–30, and the passages quoted there. For the narrow sense of substance, cf. Künne 1998, 249, 245, who mentions among others A79 and §183 II 244; Textor 1996, 69; BE 79. For the broad sense: Künne 1998, 235 nn. 6, 7; §118 I 557; §142 II 65; §669 IV 553; PU §57; GA 2 B 16/1: 164–65.

In the broad sense of substance introduced above, examples of adherences are your charming looks and my guessing that you will finish reading this essay, since you and I are substances and these are qualities of ours (for the sake of precision, the being-charming of your looks is an adherence of an adherence).

According to Bolzano:

> (QI) Qualities inherit the ontological status of their bearer. (§80 I 387 Anm. 2; AT 22; §111 I 522 Anm. 1; BE 79)

Moreover, adherences are bearer-specific (§273 III 12; §292 III 112), suggesting that Bolzano's adherences are what goes now under the name of *tropes*.[16] Indeed, they are:

> *This* red (*numero idem*) can be found in [*an*] no other rose. The red found in any other rose can, if you wish, be *similar*, *very similar* to it, but it cannot be the *same*, just because it is not the same rose; for *two* roses *two* reds [*Röthen*] are needed. (BE 32–33)

To sum up, objects divide into pure objects and qualities, and for Bolzano qualities are not only things such as colors, moral qualities such as evilness, and lektological qualities such as objectuality, but also mental phenomena such as judgments and sensations[17] and, in general, states of and changes of and in bodies (note that Bolzano speaks of changes when we now would speak of events or processes).[18] Furthermore, Bolzano's "quality" is a term covering not only existing tropes—that is, events (getting bored), processes (humming), states (being cold), and particularized qualities (being a bird)—but also non-existing lektological qualities. The ontological difference between existing and non-existing qualities matches the ontological difference between their bearers, that is, between existing and non-existing objects.

Note that acceptance of lektological qualities in a philosopher's universe does not yet entail an acceptance of universal qualities without further ado. A universal is one over many, and Bolzano's lektological qualities are by no means necessarily such. There might be as many qualities of falsity or objectlessness, as there are false propositions and objectless ideas. Actually, although Bolzano does not state this directly, nothing

[16] See also Schnieder 2002, 118ff.; Künne 1998, 234; Textor 2004, 9.

[17] In §143 Bolzano mentions six types of mental adherences: presentations, judgments, sensations, wishes, decisions of the will, and actions. Cf. also Schnieder 2002, 151; Künne 1998, 238 n. 18.

[18] "Event" has no theoretical role in Bolzano. Neither Bolzano's terminology nor his position should surprise much, though: according to some present-day views (in case no distinction is made between events and processes) events *are* changes or sums of changes. Cf. Steward 1997, 58ff. That such positions are open to objections (cf. Schnieder 2002, 60–65, 226ff.) is another matter.

rules it out, and it is suggested by Bolzano's claim that qualities (not only adherences) are bearer-specific, that is, that every object has its own qualities (§80 I 381).[19] Here, actually, is one as yet unsettled point in Bolzano's scholarship: whether there is a single universal Birdness next to the many particular birdnesses of particular hummingbirds (and if so, how the two are related), or whether there's not (meaning that all Bolzanian qualities are tropes).[20] I shall come back to this point—to defend the latter, negative view—in Section V.

IV. THE WHOLE AND THE PARTS

Mereological considerations play a key role in the *Wissenschaftslehre*. An excellent example is the theory of variation, one of the most important and celebrated aspects of Bolzano's work. Central to the theory is the notion of variation (*Veränderung*) of a part in an aggregate.[21]

Bolzano's mereology is a complicated subject. Bolzano has a very general understanding of the notion of part (*Theil*), by which he always means proper part. This implies that if an object has parts, then, minimally, it has two distinct ones (§84 I 400).[22] There are complex objects, having parts, and simple objects, having none. To refer to complex objects Bolzano uses the generic term "aggregate" (*Inbegriff*). "Aggregate of certain things" equals "connection" or "reunion" of these things, a "being together" of them, a "whole" (*Ganze*) in which these things appear as parts (§82 I 394). Special aggregates are manifolds (*Mengen*) and sums (*Summen*). A manifold and a sum are aggregates in which the order—that is, the mode of composition—does not count; they are mere collections of the parts of an aggregate. Sums are mereological sums as defined in classical mereology, and manifolds are very similar to sums, the difference lying in this: manifolds are aggregates of immediate parts of an aggregate,

[19] Textor 1996, 68–69, provides an argument for lektological qualities as particulars. See also Schnieder 2002, 132.

[20] Another problematic point is posed by the notion of determination (*Bestimmung*), which is generally considered unclear; cf. Textor 2004, 13ff. All qualities are determinations, but not vice versa (§80 I 380). Here's a suggestion: for Bolzano, determinations (for instance, times) that are not qualities are species of objects (or even perhaps just ideas of species of objects), that is, particular aggregates, as mentioned in note 32 below. What falls under (the idea of) the time-determination $[t_1]$ is all objects existing at t_1 (§79 I 363–64), not something that is had by such objects (or by the aggregate of those objects). This fits well with Bolzano's "Platonistic nominalism" (and with GL 99, 74r.). I shall not explore the suggestion any further here.

[21] On this see Berg 1962, 92ff.; Casari 1992, 79ff.

[22] And it also implies that also allowing singular ideas to have an extension (§66 I 298) is, strictly speaking—since extensions of ideas are defined as aggregates—inaccurate of Bolzano; cf. also Textor 1996, 45.

while sums are aggregates of both its immediate parts and its remote parts (§58 I 252), that is, the parts of the parts. Take Henk's Baroque tenor recorder: it is composed of head joint, barrel, and foot joint. The foot joint is composed of a piece of wood and a small metal key. The metal key is part of the sum but not of the manifold of the recorder's parts.

Among the many examples of aggregates in the *Wissenschaftlehre* are a sack of gold and the collection of the members of a society, both manifolds (§84 I 399), and the length of a line, which is a sum (§84 I 400). There are aggregates of propositions and of ideas (§155 II 114; §204 II 357), and aggregates of numbers (§80 I 385). Another example of an aggregate is the content of a complex idea, which is the sum of the parts (ideas as well) that idea consists of (§56 I 244).[23] There are finite aggregates (whose collection of parts is finite), and infinite ones, such as spatial extensions, lines, surfaces, and bodies (§61 I 264; §282 III 46). Other infinite aggregates are time and space in general: the former is the aggregate of all instants, the latter of all places (§79 I 364). Bolzano accepts mereological atoms, that is, objects resulting from a process of mereological decomposition coming to a stop (like instants in the case of time).

Bolzano endorses, with far-reaching consequences, a version of the so-called principle of unrestricted mereological composition:

(UMC_B) For any number of distinct objects $x_1 \ldots x_n$ ($n \geq 2$), there is an aggregate $x_1 + \ldots + x_n$ consisting exactly of those objects (PU§3)

As mentioned, Bolzano's notion of part is very broad, and includes far more than just the pieces of an object. According to (UMC_B), *any* object x in Bolzano's universe can form with any other object y an aggregate $x + y$, of which x and y are parts (Krickel 1995: 76–77), with the proviso that x and y are (at least) *two* distinct objects and neither is taken more than once (GL §101 75r; GL §99; VZ 63). Note, in passing, that this means that x and y can be qualities as well (§112 I 524). For (UMC_B) not only the aggregate formed, say, by the Reguliersgracht in Amsterdam and Emma Thompson's charm is present in the universe, but also the one formed by Emma Thompson's charm and the (empty) idea [Andie MacDowell's glamour].

[23] Via the notion of content and extension of an idea, Bolzano defines interchangeable ideas (*Wechselvorstellungen*, §64 I 272), ideas with the same extension but different content, like [equilateral triangle] and [equiangular triangle]. There are also simple ideas: intuitions (*Anschauungen*), for instance, are simple and singular ideas (§72 I 325), that is, unanalyzable ideas referring to exactly one existing object (§74 I 331ff.). Concepts (*Begriffe*) are either complex or simple ideas (§78 I 353ff.): if they are complex, they have no intuitions as parts (§78 I 330, which entails that there are also mixed ideas); they may be either objectual or objectless. Intuitions have some interesting characteristics setting them apart from other ideas; cf. §75 I 334–35. On concepts, intuitions, and the latter's relation to indexicals, see Textor 1996, 77–188.

Note, however, that $x + y$ is not an object over and above x and y. Bolzano would agree that it is *not* the case that if I take a roll, raw ham, and marinated eggplant from the fridge and arrange them in a sandwich at t, I thereby create at t a new entity—say, the raw-ham-and-marinated-eggplant-sandwich-entity—over and above the ingredients taken together.[24]

(UMC_B) plays a fundamental role in Bolzano's conception of relations (*Verhältnisse*) as qualities of aggregates. Bolzano distinguishes internal (or absolute) qualities, also called properties (*Eigenschaften*), from external (or relative) qualities. The latter are qualities ascribed to an object insofar as it stands in a relation with another (§80 I 382). If between x and y a relation r obtains, the having by x of r with y is an external quality of x; however, if we consider not x and y separately but the aggregate $x + y$, r is an internal quality of $x + y$ (§80 I 381).[25] Generally, it holds:

(PK) Wherever there is a relation, there is an aggregate (and *vice versa*).

Note that, since relations are qualities, (QI) holds also for relations (§81 I 387), and moreover it holds:

(PI) If the parts of a whole are ontologically homogeneous, than the whole is ontologically homogeneous to its parts. (§79 3. I 364; §291 III 109)[26]

That is, if all parts of a whole exist, the whole exists as well, and if all parts do not exist, the whole does not either.

V. TRUTH

In §127 Bolzano tries to convince us that every proposition is composed of exactly three ideas: a subject-idea, a copula-idea, and a predicate-idea.

(*Bolzano's Conjecture*) For every proposition p, p has the canonical form [A has b], where [A] is an idea, [b] is an idea, and also [has] is an idea. (Casari 1992: 75)

[24] "[D]aß jeder beliebige Gegenstand A mit allen beliebigen andern B, C, D . . . an sich selbst *schon* einen Inbegriff bilde" (PU §3, my emphasis); cf. also PU §4. "Nothing over and above" means that, however you count at t, it is not the case that there are the following four things: roll, raw ham, marinated eggplant, *and sandwich*.

[25] Though, Bolzano notes, if r is a relation between x and y, but y does not vary (or cannot be taken as variable), then the quality of being in r to y is not an external quality of x but an internal one (§80 I 385). In order to take this into account, we might want to put a restriction on "aggregate" in (PK).

[26] Cf. Krickel 1995, 88 n. 68; Schnieder 2002, 214 n. 16.

One can ask why [has] would be an idea. Idea of what? Well, of nothing: the copula [has] is an objectless idea. To be precise, it is, like "hundreds of similar ones" (among which [shall], [not], [yes], [and], etc.), a simple objectless concept (§78 I 355 and 360).

Propositions play the role of truth-bearer in Bolzano's universe. For them Bolzano formulates the following truth-conditions:

(T) [*A* has *b*] is true iff
1. [*A*] is objectual;
2. [*b*] is an idea of quality (and is objectual);
3. At least one of the qualities that [*b*] refers to belongs to the object(s) that [*A*] refers to. (Casari 1992: 73–75; §80 I 380; §130 II 24; §131 II 26–27)

In an abstract and objective sense, truth is a certain quality that propositions can have; in a concrete and objective sense, a truth is a true proposition (also called a truth-in-itself, *Wahrheit an sich*, §25 I 112ff.).[27] Truths for Bolzano are objective in the sense that, as we saw, they do not depend on being expressed in words or grasped in thoughts, in the sense that they do not need to be known, and in the sense that their truth-value is immutable. They are, for example, independent of time (§25 I 112; §125 II 7).

Before saying more on the consequences of the Conjecture, let us ask how (T).3 more specifically works. As mentioned, it is an open question whether Bolzano has universal qualities next to tropes, that is, whether, contrary to his habit, on "quality" he is ambiguous between universalia and tropes.[28] So, are what falls under [*b*] in a truth (i) universalia or (ii) tropes?

According to (T).3, [*b*] can be a common idea of quality. But this is of no support to (ii), because [being-a-criminal] in [Silvio has being-a-criminal] might well be a common idea of universalia: among the many being-a-criminal, i.e., perpetrating robbery, embezzlement, corruption, et cetera, Silvio and Cesare may share perpetrating embezzlement as a universal ("Being-an-embezzler"). What is more, even an unshared quality such as omnipotence—unshared because it belongs only to God—may still be a universal in the sense of requiring exemplification.

The following pleads against (i), though. First, there is no direct textual support for universalia. To this one might object that there is a sense in which universalia do get textual support, for lektologica have the same ontological status as universals. However, this would not do: lektologica are pure objects, not qualities, so they cannot fall under [*b*] in (T).[29]

[27] For the other senses of "truth" cf. §24 I 107ff.

[28] Cf. Textor 1996, 64; Künne 1998, 239; Textor 2004, 9; and most of all Schnieder 2002, 137–70. They speak of *Attributen* where I speak of universalia.

[29] At most the point could be argued for lektological qualities such as objectuality, but, as argued at the end of section III, accepting lektological qualities is not yet accepting universals.

Second, accepting universalia requires also accepting a special relation, exemplification, between them and the objects of which they would be qualities. Exemplification between Silvio and Being-an-embezzler is a quite different relation from that of having between Silvio and *his* being-an-embezzler trope. Exemplification has one foot in heaven and one on earth: it connects universals and particulars in quite a special blend. For QI, PK, and PI, the having between Silvio and his being-an-embezzler trope is, like Silvio and his being-an-embezzler trope, a particular, to wit, a particular-connecting particular, that is, a (relational) trope. While having-tropes of this kind are found in the *Wissenschaftslehre* (see sections VII–IX of this essay), of exemplification there seems to be no trace. Third, since Bolzano would have to have both tropes and universalia, he would also need, next to exemplification, another special relation of instantiation connecting them,[30] in order to let being-an-embezzler tropes instantiate Being-an-embezzler. Again, of such a notion no trace is found.

The circumstance that on one occasion Bolzano indicates clearly that adherences fall under [*b*] (§143 II 69) speaks instead in favor of (ii).[31]

The most serious problem for (ii)—that is, a problem for Bolzano as a "Platonistic nominalist"[32]—is posed by Bolzano's mention of *common qualities*, qualities that objects of a certain species have in common (§112 I 523; §135 II 41; §492 IV 203),[33] not to be confused with common *ideas* of quality.[34] However, as Schnieder, who defends (ii), has shown, one may interpret "having in common" here in such a way as to get rid of the problem. For Bolzano, Silvio's and Cesare's sharing Being-an-embezzler amounts to this: each has his own being-an-embezzler trope, but both being-an-embezzler tropes fall under the same idea, [being-an-embezzler] (which, however, is not a quality but a pure object). For all being-an-embezzler tropes fall under the idea [being-an-embezzler], both in the case of the truth [Silvio has being-an-embezzler] and in the case of the truth [Cesare has being-an-embezzler]. Thus (T).3 with qualities as tropes (that is, (ii)) is safe,[35] and, thanks to plural reference, there seems to be really no need for universal qualities in Bolzano's ontology.[36]

[30] Cf. the picture in Schnieder 2002, 147.

[31] Cf. ibid., 151–55.

[32] Another problem is posed by empty qualities (Textor 2004, 63), but the whole issue provides, to my mind, a shaky basis (cf. note 12 above) to include universalia in Bolzano's universe.

[33] Cf. Textor 2004, 160.

[34] Common qualities are not qualities of aggregates, but qualities belonging distributively to *each A*. They are not qualities belonging to a species *A* as a *single* aggregate (or the sum) of all objects falling under [*A*], also expressible as [all *A*s] or [the whole of *A*s] (§106 I 499). For suppose all *A*s exist and *b* be a quality of their aggregate: then *b* would obey (QI) and pose no particular problems here.

[35] Schnieder 2002, 163–67.

[36] This does not mean that there is no room for species of tropes. These should, however, in keeping with Bolzano's conception of species, be seen as nothing more than aggregates of trope; cf. note 33 above. Here I go somewhat further than Schnieder (2002, 165–66).

VI. THE EDIFICE OF LOGIC

Let us go back to Bolzano's Conjecture. Bolzano urges us not to take the linguistic form of sentences for that of the propositions expressed by them. Among sentences, one might also say, there is always one that "optimizes the correspondence between the mereological structure of the expression and the mereological structure of sense" (Casari 1992: 72): for instance, the last among "Silvio is a criminal," "Silvio is something that has criminality," and "Silvio has being-a-criminal."

Suppose we grant this for atomic propositions. How can molecular and quantified propositions be reduced to the canonical form [*A* has *b*]? Here's where symbolic ideas come in most handy.

Negation

Let us note first of all that Bolzano has the means to distinguish clearly and consistently between term negation and propositional negation—that is, the negation non-*A* in "Sam is a non-smoker" and the negation applying to the whole scope of "Sam is a smoker" ('not: *p*', 'It is not the case that *p*', VZ 145). The first is Bolzano's "lack of" (*Mangel an*), which denies an idea of quality: the operation (as it were; this is not Bolzano's wording) of defect, that, applied (again, as it were) to an idea [*b*], yields the idea [lack-of-*b*] (§127 II 15) occurring in propositions of the species [*A* has lack-of-*b*]. Lack-of-*b* is a negative quality—and still a genuine quality for Bolzano. The propositional negation is instead the negation of a proposition [*A* has *b*], which Bolzano construes as [[*A* has *b*] has falsity]:

(N) ¬*p* iff [*p* has falsity]

(where *p* is a proposition of the form [*A* has *b*]). Since [*p* has falsity] is definable as [*p* has lack-of-truth], it follows that propositional negation can be defined on the basis of defect and the definition of truth (Casari 1992: 64, 78).

Consider this example. Suppose you are writing a paper with a colleague about theories of *ficta* in Austro-Polish philosophy based on Woolfian examples, and in conversation you say, "For sure, according to Bolzano, Mrs. Ramsay does not exist." Would

(1) [Mrs. Ramsay has lack-of-*Dasein*]

be the proposition you are expressing? No, it wouldn't: (1) is false, and not because for Bolzano having *Dasein* is not a quality (it is; §142 II 64–65), but because of (T).1: its subject is empty. For the same reason also, [Mrs. Ramsay has *Dasein*] is false. However, [[Mrs. Ramsay has lack-of-*Dasein*] has lack-of-truth] is true. The Bolzanian proposition we are looking for is

(2) [[Mrs. Ramsay] has lack-of-objectuality]

This is true (while [[Mrs. Ramsay] has objectuality] is false). Note that propositions of the species [[*A*] has objectuality] offer the most general way to say that *A*(s) is/are present in Bolzano's universe, that is, they are the proper translation of *es gibt* A(s) (§142 II 66).[37]

Other Connectives

Bolzano also has the means to distinguish the propositional conjunction ∧ from the term-conjunction between ideas.[38] A possible definition for the first is: $p \wedge q$ iff p and q are both truths.[39] Put in a more Bolzano-kosher way, this reads: the idea referring to the sole truths p and q is objectual, that is

(K) $p \wedge q$ iff [[propositions p, q such that both are truths] has objectuality]

This also holds: $p \vee q$ iff propositions p and q are such that at least one of them is a truth, or:

(V) $p \vee q$ iff [[propositions p, q such that at least one of them is a truth] has objectuality] (cf. WL §166 II 204–5; BE 11)

And further, as we know, implication can be defined starting from ¬ and ∨.[40] A similar procedure applies to quantified propositions: for instance, [Some *A* are *b*] has the form [[A which has b] has objectuality].

There are many more relations between propositions that Bolzano obtains along these lines. One of the most important is derivability (*Ableitbarkeit*), for which Bolzano makes appeal to another special quality that ideas can have: making true a proposition p when substituted to the idea x in p (§160 II, 168). Let $[x{:}p]$ be the idea of this quality. Then:

(D) $p \vdash q$ iff [[something that has $x{:}p$ and $x{:}q$] has lack of objectuality] has falsity

(where $p \vdash q$ reads "q is derivable from p"). The substitution just mentioned is Bolzano's famous notion of variation.

[37] Of this form are also the so-called subjectless propositions, such as "it thunders"; cf. Schnieder 2002, 74 n. 3; §57 I 246.
[38] For term conjunction Bolzano uses the sign +, like in "[Etwas] (na + b)" (something that has not *a*, but *b*); cf. §238 II 456.
[39] Textor 1996, 173; Simons 1999, 23.
[40] For the reduction in general see also Berg 1962, 52–57.

Let us think of an aggregate *A* among whose parts there is *x*, and let us think of another aggregate *B* that differs from *A* solely by having the part *y* in place of *x*. As Bolzano holds, for every aggregate like *A* there is just one aggregate like *B*. The notion of the unique *B* for *A* is the fundamental notion of the theory of variation (Casari 1992: 57). The notion is very general because it can be applied to objects of both boxes, existing and non-existing, with the proviso that they are aggregates. For example, thanks to the notion of variation of parts in an idea, Bolzano also manages to broaden his treatment of some relations between ideas based on objectuality to all ideas, including objectless ones (§69, §108).

The same procedure can be applied to propositions that, in dependence of ideas varying in them, can turn from false to true and vice versa. Note, however, that this is a rather too quick way to describe things: such celestial and immutable objects as ideas and propositions do not change. As Bolzano makes clear (§69 I 314), when we consider a part *x* of an aggregate of ideas *A* to be variable, we simply consider all aggregates of ideas with the same content and mode of composition differing from *A* solely in having another part *y* in place of *x*.

Relations between propositions whose parts can vary form the basis of Bolzano's theory of derivability mentioned above; of logical derivability; of the theory of grounding (*Abfolge*);[41] of the theory of analytic and synthetic propositions; and, finally, of the theory of probability.

VII. THE SEMANTIC VALUE OF TRUTHS

Are the truth-conditions (T).1–3 all one can say on truth in Bolzano, or is there more to be said? Is there, say, any ontology of truth?

There is no clear agreement on the matter. Some scholars suggest that Bolzanian truths have an ontological counterpart in the world with some interesting characteristics.[42] Casari has been the first to approach the issue. By analogy to the notion of referring between objectual ideas and their objects, he wonders (C1) whether truths in Bolzano could be taken to be enunciating (aggregates of) relations the same way objectual ideas refer to objects, and (C2) whether relations could be taken as the ontological counterparts of truths.[43] His answer to the first question is no (though he considers the issue open and worth exploring further), and to the second it is yes. His overall conclusion is, however, "We may almost certainly exclude that B[olzano, A. B.] did ever arrive to a definite conception of a direct ontological counterpart of propositions" (Casari 1992: 104). This will be also my conclusion, but I shall reject both (C1) and (C2). Let us look at the two points in detail.

[41] On this see Tatzel (2002).

[42] See, for instance, Krickel 1995, 24; Textor 1996, 158–59.

[43] See the appendix in Casari 1992, in particular 102.

Bolzano claims, indeed, that there is an analogy between the truth of propositions and the objectuality of ideas (§154 II 101); however, the analogy in question has lent itself to surprisingly diverging interpretations.[44] Bolzano also claims that propositions enunciate (*aussagen*) relations:

> For the proposition "Caius has learnedness" enunciates a relation between the things Caius and learnedness themselves, rather than between the ideas we have of them. (§23 I 98)[45]

However, Bolzano also says that the object of a proposition, if any, is the object falling under its subject (§130; §135 II 41; §146).

What the elements of the last paragraph among others suggest is that what a proposition enunciates and what is in the world as its ontological counterpart just in case that proposition is true might be different things, and therefore that enunciating a relation might not be the propositional pendant of referring to an object. Before I go on discussing this point in what follows, let me make clear, to avoid misunderstandings, that in Bolzano there is no room for the modern notion of truth-making as a relation from the world to propositions.[46]

Briefly and somewhat more generally put, we seek an answer to the following question: is there something in Bolzano that can be put in the place of *f* (related to (C1), Casari's first point) and of *o* (related to (C2), Casari's second point) in the following statement?

(ST) For every basic, non-symbolic proposition *p*, if *p* is true, then there is an object *o* that *p*, as a whole, *f*-es, if *p* is false, there is no such object (or: the idea of such object is objectless), and *p* does not *f* anything.

Now, in connection with (C2), let us ask: could relations be put in place of *o*, that is, could they be taken as the ontological counterparts of truths? The having of at least one of the qualities falling under [*b*] by the object falling under [*A*] in (T).3 is, indeed, an external quality of *A* (let us assume for simplicity that [*A*] is a singular idea), that is, having is a relation between *A* and *b* (and, seen from the point of view of the aggregate *A* + *b*, an internal quality of it):

> For instance, every object *A* stands, with its quality *b*, in the relation of '*having* this quality'; the quality *b*, instead, stands, with the object *A*, in the relation of 'being a quality of it'. (§107 I 512–3)

[44] Cf. Casari 1992, 99, *contra* Czeżowski 1918, 8–9 n. 1.
[45] Cf. also §136 II 46.
[46] Cf. Tatzel 2002, 12.

> Wherever there is an internal quality *b*, even of a perfectly simple object *A*, there is a relation from a different perspective. For if *b* is a quality of *A*, then the circumstance that the object *A* and the quality *b* form together a whole consisting of an object and of the quality belonging to it, or else the circumstance that exactly *A* is the object to which *b* belongs as its own quality is a relation obtaining between *A* and *b*. (§80 I 382–83)

So, the relation of having between *A* and *b* is a quality of the aggregate formed by *A* and its quality *b*. And now, in connection with (C1), let us ask: is this relation both what a proposition enunciates and the propositional pendant of referring?

In this discussion three things must be kept distinct: what a proposition [*A* has *b*] enunciates; the relation of *A*'s having *b* as a quality of the aggregate *A* + *b* whose parts are *A* and *b*; and the aggregate *A* + *b* itself, of which that relation is a quality. Bolzano would agree that

(BZ1) The proposition [*A* has *b*] is true iff there is an object *A* and a quality *b* such that *A* has *b*.

He would also agree that

BZ2 The proposition [*A* has *b*] is true iff there is an object *A* and a quality *b* that form an aggregate *A* + *b* that has, as an internal quality, the relation of having.

Now, depending on how we construe "enunciate,"[47] if BZ1 and BZ2 hold, the following *could* also hold:

(¿BZ3) A proposition [*A* has *b*] is true iff it enunciates a relation of having between *A* and *b*.

Let us now focus on (¿BZ3) and (C1). We can construe "enunciate" either (i) as a semantical relation between a proposition and the world, akin to referring, or (ii) as a lektological relation between two propositions (in the basic and non-symbolic case).

In case (ii), when we say that a proposition [*A* has *b*] enunciates a relation of having between *A* and *b*, we mean something like this: [*A* has *b*] says that there is a relation of having between *A* and *b*. What this might mean is suggested by the following passage devoted to the conclusions that can be derived from a given proposition:

[47] Note that throughout this discussion it is not the copula [has] that would be enunciating having—because [has] is objectless—but the whole proposition [A has b].

> Moreover, the circumstance that the quality *b* belongs to the objects conceptualized under *A* (if the proposition is true) can be seen as a relation between *A* and *b*; this leads thus to the conclusion: the relation of *A* to *b* is the relation of certain objects to a quality belonging to them. A conclusion that [. . .] is *equivalent* with the given proposition itself <*A* has *b*, A.B.>, and might be seen as an *objective consequence* of it. (§225 6. II 399)[48]

So, claiming that [*A* has *b*] says that there is a relation of having between *A* and *b* is something like claiming that the propositions [*A* has *b*] and [the relation of *A* to *b* has the quality of being a relation of certain objects to a quality belonging to them] are equivalent, the second following from the first. If enunciating is a relation of this kind, however, not only do truths enunciate relations, but so also do falsities. And if this is the case, then the answer to the question whether (¿BZ3) holds is no. Actually, evidence for this negative answer abounds.[49]

What now if enunciating in the lektological construal were something done only by truths? In this case (¿BZ3) would hold, but it would not follow from this that enunciating would be a semantical relation between a proposition and the world akin to referring. And this semantical construal of enunciating is exactly the point at issue in (C1).

To sum up: if the semantical construal (i) is correct, then (¿BZ3) holds; if the lektological construal (ii) is correct and all propositions enunciate having-relations, then (¿BZ3) does not hold; if the lektological construal (ii) is correct and only truths enunciate having-relations, then (¿BZ3) holds, but this does not show that enunciating is the *f* we are looking for in (ST) and does not decide in favor of (C1). There is evidence that the lektological construal (ii) is correct, and that therefore (¿BZ3) does not hold and that "enunciate" is not the *f* we seek.

It is difficult, though, to find any other Bolzanian candidate for *f*. This suggests that, as far as *f* goes, (ST) is inapplicable to Bolzano. So, with Casari, I would answer no to (C1).

As for (C2), Bolzano's *o* in (ST), note first of all that (ST) excludes that falsities have an ontological counterpart. And indeed, if there is any Bolzanian special candidate for *o*, then falsities have no *o*. What *o* would be, however, is difficult to say. It does not follow directly from (BZ1) or (BZ2). Recall that *A* + *b* and its having are different objects: would *o* be the *having* as a quality of *A* + *b*? *A* + *b* itself? Or something else?

One might reason as follows. As we just saw, there is no Bolzanian relation for propositions akin to the relation of referring for ideas, that is, one that relates a proposition with

[48] Cf. also WL §129 9; §119 I 562; §107, 3. I 513.

[49] In §28 I 123, Bolzano speaks of "den Unterschied zwischen dem Zukommen und dem bloßen *Aussagen* (dem bloßen Sagen, daß Etwas zukomme)"; also cf. in §66 I 297 the discussion on *Aussagen*, *Beziehen*, *Zuschreiben*; the entire (12) in §139 II 41; Schnieder 2002, 85–86; Schnieder 2003; Casari 1992, 104.

an object in the world to be put in the place of *f* in (ST). This notwithstanding, on the basis of (BZ1), (BZ2), and the circumstance that a proposition [*A* has *b*] says that there is a relation of having between *A* and *b*, the following holds: whenever a proposition [*A* has *b*] is true there is also an aggregate, or (as I shall also say) a complex, *A* + *b* related by (a relation of) having. This complex looks like a good candidate for *o*, the ontological counterpart of a truth [*A* has *b*].[50] Let us assume, by hypothesis, that it is. In the next section I will raise a number of problems provoked by this hypothesis, but for now let us see what picture would emerge from this hypothesis with regard to truths other than basic ones.

First, a defective truth of the species [*A* has lack-of-*b*] would have as counterpart a complex of the species *A* + lack-of-*b* (related by having). Second, molecular propositions, as we saw in section VI, are symbolic, so the counterpart of a molecular proposition would be a complex of a lektological object and a lektological quality, the first belonging to the second. Something similar holds for quantified propositions. Third, there are cases when the ontological counterpart of a proposition would not be a single complex; for instance,

(3) [Joel and Ethan Coen have the quality of speaking English]

is formed by ideas of a species different from those contained in the proposition

(4) [Kurt Weill and Bertolt Brecht have the quality of being the author(s) of *The Seven Deadly Sins*]

The Coen brothers do not have *together* the quality of speaking English: from the first proposition it follows that Joel Coen speaks English and that Ethan Coen speaks English, but from the second it does not follow that Kurt Weill has the quality of being the author of *The Seven Deadly Sins* and Bertolt Brecht has the quality of being the author of *The Seven Deadly Sins*. So it is not the aggregate formed by Joel and Ethan Coen that has the quality of speaking English, while it is the aggregate composed by Kurt Weill and Bertolt Brecht that has the quality of being the author(s) of *The Seven Deadly Sins*. Thus (3) must be taken to have the form

(3)* (Every) part of the aggregate (Joel Coen + Ethan Coen) has the quality of speaking English.[51]

[50] And this, if I understand him correctly, is Casari's proposal. Casari remarks that *Verhältnis* in Bolzano is ambiguous, and that sometimes something similar to a *state of affairs* is meant. In the next section I shall argue that Bolzano's complexes are neither states of affairs nor facts. Once this is clear, however, Bolzano's *Verhältnis* could be taken to be the complex at issue here, that is, the relation taken together with its members, that is, as one may want to write, a relationship (i.e., a *Komplexion*, as Meinong was to call it).

[51] Cf. also Krickel 1995, 105ff.

What would be the ontological counterpart of (3)* according to our hypothesis? Not the aggregate of Joel Coen and Ethan Coen (as *A*) and the quality of speaking English (as *b*) related by having, but the aggregate of the two aggregates (Joel Coen + his quality of speaking English) and (Ethan Coen + his quality of speaking English), both related by having. Along these lines one can think of further examples of propositions whose ontological counterparts are aggregates of aggregates.[52]

VIII. NEITHER BOLZANIAN PROPOSITIONS NOR COMPLEXES ARE STATES OF AFFAIRS

Are propositions states of affairs? And are Bolzano's complexes, as described above, states of affairs? To the first question the reply is clearly no.[53] To the second question the reply is also no. One might want Bolzano's complexes to be extremely degenerate cases of facts, but such extremely degenerate cases of facts seem to me no facts at all.[54] (If I pointed to a platypus and asked, "Hey, is this a duck?" would you reply, "Yep. An extremely degenerate case of duck"?)

Let us look at why propositions are not states of affairs. First, as opposed to states of affairs, propositions do not have giraffes, Toblerone fantasizings, and performances of Shostakovich's *Yiddish Folk-Songs* as parts, but rather the ideas of these things. Second, propositions have a semantic character. Third and most important, for every proposition the universe contains both this proposition and its negation, with no difference in ontological status between the two (they both obtain, one might say). Thus, if propositions were states of affairs, Bolzano's universe would be contradictory just for having both true and false propositions in it.

One could point out that if propositions and states of affairs are expressly identified, the first two points are unproblematic. There are indeed theories of states of affairs of this kind. However, whoever acknowledges states of affairs acknowledges either only obtaining states of affairs (that is, facts) or else both obtaining and non-obtaining states of affairs (that is, states of affairs with different ontological statuses). Both variants are impossible to reconcile with the third point mentioned above.

As to whether Bolzano's complexes $A + b$ related by having are states of affairs, note that Bolzanian false propositions have no counterparts, so nothing like non-obtaining states of affairs is needed. Therefore, at most his complexes are facts. But are they?

Take [Sam has sadness]. According to our hypothesis, its ontological counterpart would be the complex Sam + Sam's sadness related by having. The sadness involved is

[52] Cf. also Casari 1992, 101–2. Note, *en passant*, that on the hypothesis made, Bolzano can avoid molecular complexes—though he cannot avoid defective (that is, negative) ones.
[53] *Contra* Chisholm 1966, 104.
[54] *Pace* Casari (1992, 101).

an adherence, so, unlike in most theories of facts, it is a particular, not a universal. More difficult is to understand what kind of object is Sam. Since no aggregate is ever formed by objects taken twice, we can rule out the possibility that it is Sam with her sadness. It has to be Sam *without* her sadness. Is the relation of having a third constituent of this complex? It would not seem so. We saw that relations are special qualities, qualities of wholes; therefore, as a quality of the whole Sam + Sam's sadness, the having is not a part of it. Does the having exist as well? Yes: for (QI), it is as particular as the object and the quality involved. And since all parts of Sam + Sam's sadness exist, for (PI), Sam + Sam's sadness exists as well.

One might think that the position just illustrated comes near to a variant of theories of facts called *concrete compositionalism* (Wetzel 2003, §2), defended by philosophers such as David Armstrong (Armstrong 1997: 126–27) and some direct-reference theorists who exploit the notion of singular propositions (with the proviso that singular propositions are seen as spatiotemporal). This, however, is not the case. First, Bolzano's complexes differ from singular propositions because they are not tuples.[55] They also differ both from singular propositions and from Armstrong's facts (in his terminology, states of affairs) because the qualities involved are tropes instead of universals, and because their composition is mereological.

The last two differences are crucial. As is well known, theories of facts involving universals fall prey to the so-called Glue Argument, to Bradley's Regress, to both, or else to incoherence, as they invoke a difference between the "mere" mereological sum of their constituents and the fact as a real whole that is their actual union, without being able to account for the difference (Vallicella 2000; Betti 2006). It can be shown—under the assumption that his theory of tropes is as sketched in sections III and V above—that Bolzano's complexes are immune to all these objections. In particular, Bolzano's complexes need not invoke any difference between the "mere" mereological sum of the parts of a complex and their actual union; the notion of aggregate as mereological sum does the job, thanks to the particularity and the bearer-specificity of *b* and having.

Bolzano's complexes are too little factlike to be called facts. For a complex object to be significantly called a fact, it seems, one of the following two characteristics is fundamental: (i) non-mereological composition, that is, that the fact is a complex over and above its parts—a higher-order object, Meinong would say; or else (ii) ontological heterogeneity (either of the parts, as when for instance particular real pure objects and universal qualities are involved, or between parts and whole, as when parts are all real particulars but the whole has the character of a universal).[56] Bolzano's complexes lack both.

[55] *Contra* Textor 1996, 159.

[56] Note that the two characteristics are strongly related, and arguably in such a way that the second is a consequence of the first, but I shall not discuss this point here.

IX. SUBSTANCES, MEREOLOGY, AND THE ONTOLOGY OF TRUTH

If the complex Sam + Sam's sadness is not a fact, it is still unclear what it is, and whether it can count as *the* ontological counterpart of [Sam has sadness]. These two points are related.

Is Sam + Sam's sadness a substance, and is it (numerically) identical with the substance Sam (at a particular time *t*, that is, when she is sad: sad Sam_t, as I shall write)? That the complex Sam + Sam's sadness (at *t*: Sam_t + Sam's sadness_t, as I shall write) and the individual sad Sam_t are two numerically distinct objects cannot be the case; if they were, they would wholly occupy exactly the same location at the same time without differing in any quality whatsoever. And this, I am afraid, cannot be defended. So, since they are the same object, if sad Sam_t is a substance, then also Sam_t + Sam's sadness_t is.

Two objections can be formulated to this.[57] The first is the following. One can say that the two coincident objects do differ, because they do not have the same parts. Thus although her sadness_t is "at" (*an*) Sam_t, it is not a part of her; therefore Sam_t does not count her sadness_t among her parts, while the complex formed by Sam_t and her sadness_t does. For, as a number of interpreters insist, adherences are not parts of the substances they are "at."[58] However natural the claim that adherences are not parts of substances might seem in itself, a difficulty here is posed by Bolzano's understanding of relations and his extremely broad understanding of "part" we saw in many occasions above ("by part I understand every object of which a whole is composed"; §83 I 397), together with (UMC_B). We saw that relations are internal qualities of aggregates: for an adherence to have any relation with its bearer, adherence and bearer have to be parts of an aggregate of which that relation is a quality.[59] So adherences have to be parts of some complex thing, or else some relations that Bolzano clearly admits have to be rejected. Obviously one could say that this does not imply that adherences are parts of substances, but only that there exist complexes composed by adherences and their substances, related by relations. This is a respectable countermove, but then again, what would such complexes be, other than themselves things like Sam, her nose, the moon, a squirrel, or a bass clarinet? We saw that Bolzano oscillates between strict and broader notions of substance: perhaps adherences are never parts of substance in the strict sense, but why couldn't they be parts of substances in the broader sense? In any case, suppose that Sam_t + Sam's sadness_t is indeed not a substance but a complex sui generis,

[57] I do not consider the option of seeing objects as four-dimensional slices, since Bolzano does not; cf. Textor 1996, 354–55.

[58] Cf. (A) in Künne 1998, 237; Schnieder 2002, 177.

[59] Note that qualities as parts are well represented in history; among Brentanians they are called metaphysical parts.

that is, a stranger, to use Schnieder's wording (Schnieder 2002: 219, 232). Then also sad Sam_t would be a complex sui generis, and Bolzano's world would be a world of strangers, because substances in the broad sense would be all strangers. Yet however we classify sad Sam_t—that is, Sam at *t* together with all her qualities— the point remains that that object is identical with the complex of Sam_t *plus* Sam's $sadness_t$ related by having.

The second objection to identifying sad Sam_t and Sam_t + Sam's $sadness_t$ is that they do after all differ, because we supposed in our hypothesis in the previous section that the having was not part of the aggregate of Sam_t + Sam's $sadness_t$, while Sam at *t* is taken as carrying all her qualities with her, including her $sadness_t$ and the quality of having by her of the quality of sadness.[60] Suppose the objection is convincing. Then the consequence is that of revealing a deeper problem with the whole idea of an ontology of truth in Bolzano, and in particular with our hypothesis. Let's see what the problem is and why it arises.

In the discussion in section VIII on whether Bolzanian complexes are facts, we took Sam in the complex Sam_t + Sam's $sadness_t$ related by having (which in our hypothesis was the ontological counterpart of a proposition) as being Sam with all her adherences at *t* except sadness (and except the external quality of having sadness). But what's the rationale behind this? We could have taken a less clothed Sam, Sam with all her adherences at *t* except sadness, except the external quality of having sadness, and except the color of her eyes; Sam with all her adherences at *t* except sadness, except the external quality of having sadness, except the color of her eyes, and except any quality we may think of—the lower limit being, perhaps, as we saw above, that we cannot take Sam so unclothed as to be a bare particular.

There are still other options. As (BZ1) and (BZ2) show, if [Sam has sadness], or, more precisely, if [Sam_t has sadness] is true, there are a number of things in the world having to do with its truth that could all fulfill the role of the counterpart of it. First and foremost, there is sad Sam_t, Sam at *t* with all her qualities, including sadness, but also including her external quality of having her sadness. This object could indeed be the ontological counterpart of [Sam_t has sadness]. Why not? Second, also just the having-adherence at Sam + Sam's sadness, or, third, even just the sadness-adherence could do the job.[61]

These, like Sam_t + Sam's $sadness_t$, and any other aggregates of Sam plus some qualities with the proviso we include sadness, are all, say, "cuts" of sad Sam_t. How do we choose one? How, in all generality, do we carve out the world, in truth? Propositions, in serious

[60] The having-adherence, in turn, could be seen as part of another two-part complex formed by the complex Sam + Sam's sadness and the having-adherence seen as its quality. This might fuel an infinite regress (be it harmful or not), but if it does, so does sad Sam.

[61] For a theory letting just the sadness-adherence do the job, cf. Mulligan, Simons, and Smith 1984.

correspondentism, tell us how to do so. And providing an answer to this is the core business of truth-maker theories. But neither project is the one Bolzano embarks on, otherwise he would have given us either the *f* in (ST) or an analysis of *o*, or both. And if neither is Bolzano's project, then, importantly, the hypothesis that Sam_t + Sam's sadness_t (related by having, which is not its part) be *the* counterpart of [Sam_t has sadness] is arbitrary—with the proviso that the second objection is correct and that the object is a cut of Sam at *t* with all her qualities. We might just as well cut as little as possible and go for Sam at *t* with all her qualities, what we called sad Sam_t, and try to reconcile this with Bolzano's claim that the object of a proposition is the object falling under its subject. Still, the problem is that although we can argue that the object of [Sam_t has sadness] is Sam at *t* (§130; §79 I 364–65), it is still problematic to say what exactly that object would be (for instance, whether it is Sam at *t* with all her qualities at *t*, or not).

The upshot of all this is that the answer to (C2) is no, and that no object plays the role of *o* in (ST). In principle, the complex of *A* and *b* related by having, in which *A* is taken with all its qualities except *b*, could be a good candidate for this role, but so could very many other aggregates including *b* as part that are in the universe whenever [*A* has *b*] is true. We might want to say that for the role at issue we should therefore choose the complex including *b* that is identical with the object falling under the subject-idea of [*A* has *b*], that is, *A*; we would deem that complex *A* privileged because *A* would be that very object about which Bolzano says that it is the object of a proposition. Yet this is problematic. First, what does *A* look like exactly? Is it really a complex? For in the case that *A* is real, the possibility of identifying *A* with a particular complex including *b* depends among other things on the understanding of substance one adopts (broad or narrow). Second, even on the broad notion of substance, the question still remains whether the analysis leading to that identification is applicable to *all* Bolzanian propositions. (To mention one problem, how would this go for propositions about simple substances such as God?) Third, and most serious, the object that according to Bolzano is the object of a truth, that is, the object falling under [*A*] in [*A* has *b*], is picked up by the idea-subject alone and not by the whole [*A* has *b*], and this, for lack of a suitable *f*, goes against the very idea of (ST). Therefore, neither the complex of *A* and *b* related by having, in which *A* is taken with all its qualities except *b*, nor *A* with all its qualities including the having of *b* (no matter whether either of them is identical with the object falling under [*A*] in [*A* has *b*]) can play *o* in (ST).

X. CONCLUSION

If the analyses presented above are correct, one of the most interesting aspects of Bolzano's thought is the way in which logical Platonism combines with rather pronounced nominalistic leanings in his bottom-level metaphysics, that is, the metaphysics of all

plain things of our daily life, of things that exist and are causally effective. Bolzano's nominalistic tendencies are particularly conspicuous in his mereological analyses, which play a major role in every aspect of his philosophy. Given Bolzano's all-pervading ontological approach, not least in his logic and semantics, it appears natural to ask whether we can find or reconstruct any notion of a special object fulfilling the office of the ontological counterpart of a truth in his thought—that is, whether there is any ontology of truth, as I said. As we saw, Bolzano does not make room for any such a special object, or at least propositions do not connect semantically in a direct way to anything that would count as such a special object. This does not imply, however, that attempts to find out what that special object (if any) could be—which are, typically, appropriate to philosophers who do have an ontology of truth—are illegitimate or unfruitful. Quite the contrary: for one thing, they are important for a correct reconstruction of the historical development of notions such as state of affairs, relation, and complex in the late nineteenth and early twentieth centuries. Such notions are fundamental tools for discussing what, if any, the worldly counterpart of a proposition would be, and acquired pride of place in Austrian philosophy, of which Bolzano was the forefather. To mention just one case: the circumstance that Twardowski acknowledges a relationship as the special object of one of the two categories of judgments (those of the form *A* has *b*) suggests that—details aside—on this point Bolzano's influence had been deeper than has been suspected up to now.[62]

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[62] On Twardowski's ontology of truth, cf. Betti 2005.

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9

CHARLES S. PEIRCE
PRAGMATISM, LOGIC, AND METAPHYSICS

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1. INTRODUCTION

Charles S. Peirce (1839–1916) belongs to the pioneers of modern logic. His development of a language for first-order predicate logic in 1885 could arguably be ranked as an achievement second to that of Gottlob Frege and his *Begriffsschrift* (1879).[1] However, as for the epistemological and ontological commitments of Peirce's logical theory, one might find reasons for focusing on points of divergence between him and Frege. First, Jaakko Hintikka (1997) has argued that while Frege belongs to the tradition viewing the logical language as the universal medium for cognitive claims about the world, Peirce could rather be seen as a member of the model-theoretic tradition, which views a logical language as a reinterpretable calculus. Second, Frege accounts for concepts in terms of certain abstract entities—functions—that take objects as their arguments and map them to a truth-value (either true or false); the semantics associated with Peirce's pragmatism famously analyzes concepts in terms of their practical consequences. Third, while Frege holds the notion of truth to have primitive status, the pragmatist explicates the notion of truth as the opinion finally agreed on in an unlimited community of inquirers.

Yet these three contrasting observations can serve only as a first approximation to Peirce's logical theory. Indeed, on further inspection the exegetic claims involved become problematic. As for the view that Peirce's logical work is to be enlisted in the model-theoretic tradition, one should also consider the underlying semiotic basis for Peirce's various logical languages; his sign typology, his overarching distinction between symbol, index, and icon, is supposed to apply not only to his logical languages but universally to all natural languages and across the very distinction between formal and natural languages. Hence we should look more closely into his so-called speculative

[1] For an assessment of Peirce's contribution, see Zeman 1986; Brady 1997; Dipert 2004.

grammar, sometimes said to be concerned with "the very grammar of thought" (4.127).[2] Further, regarding Peirce's account of conceptual meaning, one should find a place for his insistence on the fruitfulness of the semantic process of hypostatic abstraction and, not to forget, his notorious (scholastic) realism concerning universals. Finally, as for his conception of truth, we may note that in later writings he not only explicated the notion of truth as a regulative ideal of inquiry but at times he also used the term "'Truth" to capture the idea of a universal domain of objects, a domain within which the objects referred to by any propositional symbol belong (EP 2:168, 173, 209).[3]

To account for all these seemingly conflicting observations we are wise to consider how the various ontological claims form parts of the several philosophical systems Peirce developed successively during his career. With Murray G. Murphey (1961), we may identify at least four such systems. While these systems are not altogether compatible with each other, they are all guided by what Peirce refers to as Kant's architectonic principle for constructing philosophical systems (see 6.9). We may focus on two aspects of Peirce's architectonic insofar as it remained the professed if not always pursued way of doing metaphysics over the last twenty-five years of his life.

First, there is to be a certain unilateral dependence between the various philosophical disciplines such that the more general and abstract ones provide the basic principles for those that are less general and abstract. For metaphysics, which is classified as less abstract and general than logic, this involves an "acceptance of logical principles not merely as regulatively valid, but as truths of being" (1.487). Questions of logic are to be kept separate from questions of metaphysics (3.462, 5.565) so that logical principles may in turn provide a basis for metaphysics in a non-circular way (Ms. 787, 15).[4] By this procedure metaphysical conceptions are said to be made "more adequate to the needs of science" (3.454). However, the metaphysics thus constructed is primarily to be conceived as *metaphysica generalis*, and to form in turn the basis for two kinds of *metaphysica specialis*; a so-called nomological psychics and a nomological physics (3.428).

Second, logic is defined in both broad and narrow senses. Narrowly it is defined as "the formal science of the conditions of the truth of representations" (2.229). Broadly it is defined as a trivium of semiotic disciplines where logic in the formal sense is preceded by a general theory of signs, Peirce's speculative grammar, and is followed by a

[2] These numbers are references to *Collected Papers of Charles Sanders Peirce* (Peirce 1931–58). The number to the left of the decimal point indicates the volume and the number to the right the paragraph.

[3] "EP" references are to *The Essential Peirce* (Peirce 1992–98). The volume and page number follow.

[4] Unpublished manuscripts in microfilm version are indicated with "Ms.," and the numbers refer to those in Robin 1967.

general theory of methods called "speculative rhetoric" (3.430) or "methodeutic" (2.105). Within the larger classification of philosophical disciplines, the whole trivium, logic in the broad sense, is to provide the basis for metaphysics.

One interesting feature of this overall classification of philosophical disciplines is that it defines a place for Peirce's pragmatism in the project of constructing metaphysics. As Karl-Otto Apel has correctly observed (1975, 82 n. 136), Peirce's pragmatism, and in particular his pragmatic maxim for clarifying meaning, is part of the third semiotic discipline, speculative rhetoric. This places pragmatism at the very transition point between logic (in both narrow and broad senses) and metaphysics. Hence, we might expect that his pragmatic approach to meaning and truth would not only be based on a general theory of signs and on formal logic but also in turn form the basis for a metaphysical exploration of general principles of being. However, Peirce's later work on pragmatism, often involved in polemics with William James and others, does not reflect the latter ambition in any systematic or consistent way. As we shall see, while his pragmatic account of conceptual meaning does directly invite ontological considerations, the latter are not always in accordance with Peirce's architectonic plan. Still, his pragmatic account may also be related to general semiotic principles of his speculative grammar, principles that would serve as a point of departure for his architectonic plan.

The interpretation of Peirce's pragmatism below will therefore serve as a transition to his larger system; we will now use some of his famous statements of pragmatism to clarify certain consistency problems regarding his attempts to move from logic in the broad sense to a metaphysical position, in particular his scholastic realism. We will also, via these problem descriptions, turn to his general theory of signs to find starting points for the architectonic plan. More specifically, we will consider his semiotic analysis of propositional symbols as such a starting point. By following two strands in his semiotic work we will explore how the latter analysis motivates an ontological theory of facts. We consider how his analysis of logical subjecthood gives rise to an ontologically significant notion of objecthood. Finally, we consider how abstract conceptual-semantic considerations may give occasion to distinguish between facts of different ontological types.

2. THE PRAGMATIC ACCOUNT OF PREDICATION

Famously, in his pragmatic maxim the early Peirce suggests that we

> consider what effects, which might conceivably have practical bearings, we conceive the object of our conception to have. Then, our conception of these effects is the whole of our conception of the object. (5.402)

Assuming that the pragmatic maxim belongs to the semiotic discipline (called "speculative rhetoric") dealing with the scientific-methodological application of formal logic, we may ask in what way the pragmatic maxim involves an application of logic.

In fact, the later Peirce presents his pragmatic maxim as "a maxim of logic" rather than as "a sublime principle of speculative philosophy" (5.18). However, he also qualifies pragmatism as "a method in philosophy" and hence as serving a non-specialized branch of "positive . . . science" (5.13 n. 1). Since Peirce's maxim is concerned with an analysis of conceptual meaning, these qualifications can be taken as saying that logic provides principles for the analysis of meaning. More specifically, how do such principles operate when linguistic signs are subjected to pragmatic analysis?

While both sub-sentential and sentential linguistic signs may serve as an analysandum ("any concept, doctrine, proposition, word" [5.6]), all signs are given a sentential form before being submitted to a pragmatic analysis proper (5.17). More specifically, the sign submitted to pragmatic analysis is logically-semantically qualified as a predication (5.547, 6.481; EP 2:41, 402); hence, the sign is such that a truth-value may be assigned to it. As Robert Almeder has observed (1980, 14–15, 20), Peirce's maxim thus shares philosophical ground with the meaning theories later developed by the logical empiricists. However, when we turn to Peirce's more detailed account of meaning the picture becomes more complicated.

First, while the linguistics signs to be analyzed express predications, their semantic contents are qualified as "intellectual concepts," "those [concepts] upon the structure of which arguments concerning objective facts may hinge" (EP 2:401–2). On the pragmatic account, semantic content of this kind should be expressed such that the original predication is translated into a conditional sentence or a set of conditional sentences (5.17, 5.457, 5.528). The conditional sentences express what can be "*meant* by saying that an object possesses a character" (5.458):

> To predicate any such [intellectual] concept of a real or imaginary object is equivalent to declaring that a certain operation, corresponding to the concept, if performed upon that object, would (certainly, or probably, or possibly, according to the mode of predication) be followed by a result of a general description. (EP 2:411)

The semantic content pragmatically analyzed is thus articulated by one or more conditional sentences, the antecedents of which express modes of action to be performed upon the logical subject(s) of predication, and the consequents of which express experiential consequences predicted on the basis of the action taken. For example, if the

predication to be analyzed contains the adjective "hard," the antecedent expresses the action taken on, say, a piece of rock, while the consequent expresses the expected results, such as "would resist a knife-edge" (EP 2:401).

As for its further logical-semantic status, the pragmatic analysis is committed to the truth of the conditional sentence(s) expressing the meaning of the original predication (5.458, 5.528). How is such truth to be assessed and justified? Until a relatively late date (ca. 1905) Peirce generally prefers a truth-functional interpretation of conditionals; for example, "If *p*, *q*" is interpreted by disjunction and negation: "Either not *p* or *q*."[5] While on this account the pragmatic meaning analysis would be in perfect harmony with Peirce's formal language for first-order logic, from 1905 onward he holds that the conditional form used in the pragmatic analysis is not to be subjected to a truth-functional interpretation.[6] He now claims that the subjunctive form of the conditional, not the indicative, should be regarded as semantically primitive. Let us briefly contrast this new view with his early formulation of pragmatism.

In 1878 Peirce suggests that counterfactual talk does not contribute to the pragmatic analysis; only descriptions of actual experiential effects of action do. He asks "what prevents us from saying that all hard bodies remain perfectly soft until they are touched," and he contends that "there would be no *falsity* in such modes of speech" (5.403). Later, however, he finds this an "arbitrary 'usage of speech'" (5.457), and he now insists on translating predications into conditionals of the subjunctive form, bearing in mind that "the question is not, what *did* happen" (5.453) but that "if a [material] substance of a certain kind should be exposed to an agency of a certain kind, a certain kind of sensible result *would* ensue" (5.457). On the pragmatic account, then, the subjunctive form is an irreducible part of the meaning expressed by a predication.

However, since Peirce insists on the truth of the conditional sentence(s) of the subjunctive form (5.528, 5.453), and since the truth-functional account is no longer an option, we may expect that Peirce works out a philosophical framework for analyzing, assessing, and justifying the truth-claims at stake. Indeed, we may find such frameworks; frameworks that are relevant also for qualifying ontological implications of his pragmatism. Let us consider two frameworks by which such implications turn out to be problematic in the light of the architectonic plan for constructing metaphysical systems.

[5] See, for example, 3.374 (1885), 3.443 (1896), and 2.316 n. 1 (1902).

[6] For a thorough account of Peirce's interpretation of conditionals up until and then after 1905, see Skagestad 1981, 93–117.

3. ONTOLOGICAL IMPLICATIONS OF PRAGMATISM: SOME PROBLEMS

Insisting on the truth of conditional sentences of the subjunctive form, the pragmatist is led to acknowledge that "possibility is sometimes of a real kind" (5.453). This implication is explicated by Peter Skagestad as the assumption that "the conditional form must itself have a real counterpart, a role which can be filled by *a real possibility*" (1981, 113). In Peirce's perhaps more well-known terminology, such ontological modality is characterized as real "generals" or "habits" (5.453); as "would be's" (5.467); as "*esse in futuro*" (2.148); and, in his famous categorial scheme, as "thirdness," conceived as an operative principle or law in nature (5.101). As Robert Almeder has pointed out (1980, 164–80), thirdness in the latter sense is Peirce's counterpart to the "common nature" in John Duns Scotus's metaphysics. However, Peirce does not share Scotus's assumption that the common nature is contracted to the mode of individuality in singular (which he finds "too nominalistic" [8.208]); he still holds generals and laws to be real (and not only mental), although we can acknowledge their reality only through the compulsory evidence of experience (which Peirce categorially conceptualizes as "secondness"; see Bohler 2004). Here we shall note only that, for the pragmatist, the ontological claim regarding the reality of thirdness can be seen as a final justification of the truth-claims raised by the conditional sentences into which predications are translated (Almeder 1980, 165).

However, not only does Peirce elsewhere express doubts concerning the general strategy of accounting for truth by some notion of reality (1.578); the ontological claim involved raises a more serious problem in the light of Peirce's architectonic plan for constructing metaphysical systems. In fact, to account for the truth of a conditional sentence by appealing to an ontological modality reverses the unilateral dependence assumed by Peirce's architectonic plan. According to the latter, "metaphysical conceptions spring from formal logic" (3.454), and metaphysics rests on an "acceptance of logical principles not merely as regulatively valid, but as truths of being" (1.487). To avoid circularity, metaphysical conceptions should be accounted for in logical terms rather than the other way around. Logic, however, should here be understood in the general sense that "logic is the study of the essential nature of signs" (EP 2:311). In any case, Peirce's architectonic plan would not support a systematic elaboration of the ontological implication regarding real possibilities.

Let us identify another problematic ontological assumption associated with Peirce's pragmatism. As noted, Peirce rejects Scotus's theory of common nature as contracted in individual substances. Sometimes, however, he goes on to specify general logico-ontological conditions for the logical subjects of propositional symbols. As part of an argument "of a pragmatistic kind" (EP 2:168), he presents a critique of Aristotle's ontological version of the principle of the excluded middle, a principle

that is not the syntactic counterpart of the bivalence principle but a principle "defining individuality" and laying down that, "whatever the predicate, *X*, of a proposition may be, its subject *S* is either *X* or not *X*" (EP 2:168).[7] The principle is, Peirce argues, not true of "general subjects" since "it is not true that 'all men are either tall or not tall'" (EP 2:168). Thus, as he makes explicit elsewhere, the argument turns on the notion of the ontological determinacy of the logical subjects: "The individual is determinate in regard to every possibility, quality, either as possessing it or as not possessing it. This is the principle of excluded middle, which does not hold of anything general, because the general is partially indeterminate" (1.435). While the rejection of the universal applicability of Aristotle's ontological principle does not as such involve a general rejection of the bivalence principle, it does affect the issue of how the truth-conditions of general sentences are to be logically analyzed and how truth-values are to be assigned to them.[8] It seems then, once again, that Peirce has reversed the unilateral dependence between logic (semiotic) and ontology assumed by his architectonic plan. According to the latter, ontological considerations regarding logical subjecthood should proceed from a logical or semiotic analysis of how logical subjects of predication are established, and an analysis of the modes of being involved should thus be based on an analysis of the modes of signification involved.

However, Peirce does engage in semiotic analyses of the logical subjects of propositional symbols. In some of his rather well-known analyses he analyzes conditions for the referential content of verbal utterances containing quantifiers. Indeed, the use of quantifiers is important for his pragmatic account of predication, since the latter is concerned not merely with simple predications of the form "(This) X is Y" but also with general sentences expressing universal and statistical laws in science. In outlining

[7] We may distinguish between formal and material modes of stating this principle. Peirce stated his principle of excluded middle in the material mode in 1.434 (ca. 1896): "The individual is determinate in regard to every possibility, or quality, either as possessing it or as not possessing it. This is the principle of excluded middle, which does not hold for anything general, because the general is partially indeterminate." His statement of the principle in the formal mode occurs in Ms. 611, 13 (1908): "By the Principle of Excluded Middle (or of excluded third), is always meant the principle that no pair of mutually contradictory predicates are both false of any individual subject. (Of course, to say that the twelve disciples of Jesus were all apostles or were not apostles are both false.)" As we shall see below, it is the formulation of the principle in the material mode that is particularly problematic on the architectonic principle.

[8] Robert Lane (1997) has emphasized that Peirce's rejection of the universal applicability of Aristotle's ontological principle of the excluded middle does not involve a rejection of the bivalence principle. However, Peirce himself sometimes accounted for the bivalence principle at least partly in terms of the ontological principle of the excluded middle: "To say that every proposition is either true or false is to say that whatever the predicate, *X*, of a proposition may be, its subject *S* is either *X* or not *X*" (EP 2:168).

what we might call "a contextual-semantic approach," he claims that the referential content of a quantificational sentences is established not only by the utterer's purpose and (quasi-)experimental action (as indeed the pragmatic account of predication does assume [5.424, 5.528]) but also through the joint contributions of utterer and interpreter in a context of interpretation and action coordination. Generally,

> words whose meaning should be determinate would leave "no latitude of interpretation" . . . since the context made it plain that there must be no such latitude either for the interpreter or for the utterer. (5.448 n. 1)

More specifically, Peirce accounts for the use of existential and universal quantifiers in terms of a social coordination of responsibilities and entitlements in justifying referential claims (2.289; 2.453; 2.523). In short, by the use of pronouns corresponding to the universal quantifier—expressions such as "anybody," "any," or "whatever"—the hearer has the right and the responsibility to select an object "within limits expressed or understood" (2.289), while by the use of lexico-grammatical forms corresponding to the existential quantifier—expressions such as "some," "a(n)," or "something"—the speaker virtually promises to go on and select an object. Hence, utterances containing tokens of quantifying expressions are semantically indeterminate and require action on the part of interpreter or utterer. As has been pointed out by Risto Hilpinen (1983), this approach parallels contemporary modern game-theoretical semantics and how it defines truth for quantificational sentences in a regimented language.

However, Peirce's account does not block the consequence that the assignment of a truth-value to a quantified sentence is made strongly context dependent. Notably, the selection of logical subjects is said to be in virtue of "the interest" of the one responsible for making the selection (NEM IV:173).[9] In uttering sentences containing expressions equivalent to a universal quantifier, "you have surrendered to another person your right to say what you are talking about" (NEM III/1:763). Since the selection of logical subject(s) thus seems to be relatively unconstrained and would affect not only the referential content of a sentence but also its truth-value, the latter may become dependent on various contextual factors (cognitive or other interests, background knowledge, and experiential situation). Hence, Peirce's contextual semantics does not block the possibility that different truth-values might be assigned to a quantificational sentence by a shift in the context of interpretation.

By consequence, the contextual semantics outlined would thus undermine the universal applicability of the bivalence principle. This might seem problematic, and not

[9] The abbreviation "NEM" refers to *The New Elements of Mathematics* (Peirce 1976), and Roman numerals indicate volume number.

only in virtue of the fact that Peirce elsewhere defends the bivalence principle (see EP 2:168, 275, 284; 4.547). The problem can be qualified also by the architectonic plan for metaphysics. For example, we might expect that, as a logical principle, the bivalence principle should be treated not only as a regulative principle of inquiry but also as one of the "truths of being" (1.487). In particular, the bivalence principle might motivate an ontological account of logical subjecthood. In fact, it seems that Peirce does engage in a project of the latter sort, and we shall see below that he explicitly introduces and applies his category "secondness" for this purpose. The latter project arises, however, against the background of a more general semiotic account of propositional symbols than we have considered so far.

4. WHAT IS A PROPOSITIONAL SYMBOL?

On the contextual-semantic approach, the semantic determinacy of a propositional symbol depends on the utterer's or the interpreter's cognitive and practical efforts in actually making the symbol determinate. However, Peirce's tripartite semiotic, and in particular his speculative grammar, provides frameworks for analyzing more general conditions for the interpretation of any propositional symbol. These frameworks share certain basic assumptions.

First, speculative grammar claims that the very formulation of a propositional symbol is conditioned by highly general features of grammatical structure (3.430), features reflected in "the syntax of every [natural] language" (2.280). I have argued elsewhere that speculative grammar focuses on two levels of structure: constituency and cross-linguistic regularities concerning the syntactic expression of semantic argument structure.[10] In a particular language such structural traits condition the ways in which sentential and sub-sentential symbols are formed qua types; any utterance and interpretation of tokens of such types would also be conditioned by such structural traits. The insistence on cross-linguistic generality is important here since propositional symbols are, Peirce claims, inter-translatable: "It is the same proposition every time it is thought, spoken, or written, whether in English, German, Spanish, Tagaloge, or how" (Ms. 599, 4).[11] Still, what kind of sameness are we talking about here? Presumably, cross-linguistic traits of structure condition but not determine translatability and cross-contextual interpretation of a propositional symbol "every time it is thought, spoken or written" (Ms. 599, 4).

[10] See Midtgarden 2002, 2007.

[11] Sometimes Peirce even defines propositional meaning, or such meaning as is expressed by an assertion, as "the translation of a sign into another system of signs" (4.127).

What defines the cross-linguistic and the cross-contextual identity of a propositional symbol is something that is expressed through linguistic structure and logical form, but which is not assumed to be exhaustively determined by either standard. Hence, speculative grammar would not consider it sufficient to reconstruct formally the truth-conditions of a propositional symbol. Rather, in taking lessons from "comparative syntax," speculative grammar is to "explain what *facts* different forms of expression signify" and to "survey the whole ground of different ways of *thinking the same fact*, so far as they betray themselves in speech" (Ms. 595, 21, my emphasis). What, then, is a fact? "[A] 'fact' is something having the structure of a proposition, but supposed to be an element of the very universe itself" (EP 2:304). Still, what would count as necessary and sufficient conditions for the cross-linguistic and cross-contextual *sameness* of facts, and how may such conditions be reconstructed such as to accord with the architectonic plan?

We will consider two distinct semiotic frameworks to provide an answer to this question. First we will consider a general framework for analyzing referential claims associated with uttered tokens of a propositional symbol. Applying Peirce's category "secondness," propositional symbols are here primarily analyzed as indicating objects; the facts expressed by propositional symbols are "about" these objects (EP 2:433). Notably, while objects are conceived in terms of "brute reactions" (EP 2:433), Peirce construes a notion of logical subjecthood that addresses the problem regarding his contextual semantics. Second, we will consider a framework for analyzing *conceptual-semantic* requirements on a propositional articulation of fact. As we shall see, this framework further suggests a semantic basis for conceptualizing facts of ontologically different kinds.

To anticipate, the metaphysics suggested by these two approaches together bears certain Hegelian traits. While any propositional articulation of fact is taken as carrying ontological commitments to certain entities or processes in the world, an articulated fact is not seen as existing as an isolated or atomistic entity. "If we admit that propositions express the very reality," Peirce boldly suggests, "it is not surprising that the study of the nature of propositions should enable us to pass from knowledge of one fact to knowledge of another" (4.479). Further, a propositional symbol is said to belong to a historical process progressively articulating reality in toto or the very "Universe of being" (NEM IV, 239–240). Each propositional articulation would thus add to the overall intelligibility or explainability of the world, an explainability defined by inferential relations in our language. However, the very explainability of the world, along with the assumption that "an isolated fact could hardly be real" (5.457), is also supported by Peirce's scholastic view of thirdness as an operative principle in nature. How, then, is the present account of propositional symbols to meet the requirements of the architectonic plan?

5. THE INDEXICALITY OF PROPOSITIONAL SYMBOLS AND THE ASSUMPTION OF A UNIVERSAL DOMAIN OF OBJECTS

Time and again Peirce defines a propositional symbol as "a sign which separately, or independently, indicates its object" (EP 2:307; see also 5.569 and EP 2:168). Indicating something separately or independently does not only involve a syntactic criterion, that is, that one or more syntactic constituents of a sentence are to be assigned a referential function to the logical subject(s) of predication.[12] The definition has a more general, ontological ambition: a propositional symbol relates to "something as having a real being independently of the representation of it as such" (EP 2:275). While an object is thus assigned a general mode of being (i.e., real being, not only being represented), the matter becomes complicated in that the definition concerns the way in which a propositional symbol relates to an object as having real being. The ontological qualification is general in the sense that it is to apply to any propositional symbol and any interpretation or interpretant of it qua token. Moreover, Peirce introduces his category "secondness" in specifying how an interpretation of a propositional symbol represents the symbol's relation to a real object:

> The Interpretant represents a real existential relation, or genuine Secondness, as subsisting between the Dicisign [i.e., the propositional symbol] and its real object. (EP 2:276)

However, this introduction of secondness does not provide an ontological guarantee for the truth of a propositional symbol or for the existence of some propositionally structured fact. Rather, the assumption that real objects are indicated, not described, suggests that certain constraints are working on any interpretation of tokens of a propositional symbol. This suggestion can be appreciated with regard to concrete contexts of oral articulation. For example, tones of voice (2.337) or a gesture (2.338) leads an interpreter of the verbal utterance to exclude the possibility that the utterer is nonserious or is talking about historical or fictitious states of affairs; tones and gestures thus function as "the indices of the real world" (2.337).[13] Still, the notion of interpretational constraints can also be appreciated on a more general and abstract level of analysis.

[12] Compare how propositions are defined by Peirce as early as 1867: "Symbols which . . . independently determine their *objects* by means of other term or terms, and thus, expressing their own objective validity, become capable of truth or falsehood, that is, are *propositions*" (1.559).

[13] The further assumption here is that, in order for a propositional symbol to indicate something real, interlocutors must coordinate their actions and cognitive efforts in certain ways. See Midtgarden 2007.

Insofar as an interpretation generally represents the relation of a propositional symbol to its object as "a blind Secondness" (EP 2:275), the relation cannot "be shown to be rational" (EP 2:275), and, hence, a propositional symbol "affords no ground for an interpretation of it as referring to actual existence" (2.251). This qualification suggests certain interpretational constraints that can, however, be neither appealed to nor questioned in justifying an actual interpretation. How, then, can this qualification be of any relevance, whether semantically, regarding the determinacy of propositional contents; logically, as for the status propositional symbols as truth bearers; or ontologically, regarding the articulation of a fact?

At least, we may take the qualification in terms of secondness to address an issue that is logically prior to that of apprehending truth-conditions or assessing truth-claims associated with uttered tokens of propositional symbols.[14] From 1902 onward, Peirce distinguishes between propositional symbols as such and acts of assertion through which an utterer assumes responsibility for the truth of a propositional symbol (2.252, 2.315, 5.546). While an act of assertion belongs to the epistemic (and moral) domain of raising, committing oneself to, and defending truth-claims, "the proposition need not be asserted or judged . . . it retains its full meaning whether it be actually asserted or not" (2.252). Yet insofar as meaning is defined (at least partly) in terms of indicating an object, how does meaning thus defined relate to, or even condition, an interpretation taking uttered tokens of a propositional symbol to articulate fact and raise truth-claims? Thus far Peirce's qualification does not meet minimum standards of logical analysis: indication in the sense considered does not even involve the distinction between a universe of discourse and its members, a distinction required for any general or quantified propositional symbol.

However, at times Peirce hints at a logico-ontological analysis adding to the specification of the relation between propositional symbols and their indicated objects. Any propositional symbol is now said to relate to the totality of real objects or singulars:

> All propositions whatsoever refer to one common universe,—the Universal Universe or aggregate of all Singulars, which in ordinary language we denominate the Truth. (EP 2:168)
>
> All propositions have one Subject in common which we call the *Truth*. (EP 2:173)
>
> All propositions relate to the same ever-reacting singular; namely to the totality of all real objects [or the "Universe of all Truth"]. (EP 2:209)

[14] In suggesting a division of labor between the semiotic sciences of his trivium of speculative grammar, formal logic, and speculative rhetoric, Peirce sometimes makes it explicit that while speculative grammar deals with the meaning of signs, formal logic and speculative rhetorics deal with scientific representations and their truth-conditions (2.229; Ms. 787, 10–11).

The assumption of a universal domain of objects indicated by any propositional symbol, as well as the appeal made to a vernacular sense of "Truth," suggests a strategy for avoiding the relativity of truth-value assignment implied by Peirce's contextual semantics. In particular, we note that the added specification extends the former application of the category "secondness." In particular, while a "real object" (or "singular") remains defined as "a genuine reacting object" (EP 2:168), the assumption of a universal domain now implies that we somehow "extend the category" and "speak of numberless real objects with which we are not in direct reaction" (EP 2:304). Hence, the suggestion is that what we can refer to even by means of a demonstrative or a personal pronoun inhabits a universal (and not only speaker- and hearer-relative) domain.[15] Furthermore, predication and truth-value assignment generally apply across such a universal domain.

How, then, is this assumption to be made explanatory and indeed justifiable on the basis of the architectonic plan? Insofar as the latter prescribes an acceptance of logical principles as "principles of being" (1.487), it is worth noting that the assumption of a universal domain is not presented technically, by a sophisticated logical (or set-theoretical) qualification regarding, say, the interpretation of quantifiers; it is rather explicated "in ordinary language" (EP 2:168) and supposed to underlie any interpretation of propositional symbols.

> All propositions refer to one and the same determinately singular subject, well understood between all utterers and interpreters; namely to The Truth, which is the universe of all universes, and is assumed on all hands to be real. But besides that, there is some lesser environment of the utterer and interpreter of each proposition that actually gets conveyed, to which that proposition more particularly refers and which is not general. (5.506)

Although Peirce appeals to what is generally "understood" or "assumed" among interlocutors, it would not accord with his earlier rejection of transcendental "presupposition[s]" regarding truth (3.432) to defend the assumption of a universal domain as a kind of transcendental principle meant to preserve the bivalence principle. In particular, Peirce does not propose an epistemological account of bivalence in terms of knowledge of objects as members of a universal domain; this would imply the domain's being inhabited by facts already propositionally structured and waiting to be inspected by a cognitive agent. He sometimes refers to this as the assumption of "*the* actual state of things":

[15] See Peirce's comment from 1905: "What we commonly designate by pointing at it or otherwise indicating it we assume to be singular. But so far as we can comprehend it, it will be found not to be so. We can only *indicate* the real universe; if we are asked to describe it, we can only say that it includes whatever there may be that really is. This is a universal, not a singular" (8.208).

> To speak of *the* actual state of things implies a great assumption, namely that there is a perfectly definite body of propositions, which, if we could only find them out, are the truth. This assumption, called the principle of excluded middle, I consider utterly unwarranted, and do not believe it. (NEM III/1:758)

Rather, what he suggests is a certain Hegel-inspired elaboration of the idea of a universal domain. First, he sometimes qualifies the idea of a universal domain by "what the Hegelians call the *Absolute*" (EP 2:173; see also EP 2:303). Accordingly, the domain is, first, a totality of objects conceived in abstraction from all individual determinations: the totality involves, in Hegel's terms, "die Negation aller Prädikate" (1969, 187). So far we are talking abstractly about a largest possible set consisting both of what actually have become the logical subjects of predication and of what may become such. Second, however, and against the background of Hegel's objective logic, the totality of objects is more specifically said to relate to outcomes of interpretative processes, each of which is characterized as the "life-history" of a symbol (2.111–15) or the "life of a symbol" (EP 2:324). In semiotic terms such an outcome is qualified by a series of interpretants involving truth-value assignments and reassignment; it is where we "finally . . . get a Seme [i.e., a term] of that highest of all Universes which is regarded as the Object of every true Proposition, and which . . . we call by the somewhat misleading title of 'The Truth'" (4.539). The very notion (or "seme") of a universal domain is thus formed in a historical yet directed interpretation process involving truth-value assignments and reassignments. As we shall see, the function of this conception is to account for the assumed directedness of the interpretational process.

Sometimes (in Ms. 517) Peirce conceives an interpretational process involving propositional symbols as a directed process on the assumption that "the purpose of every sign is to express 'fact'" (EP 2:304). He goes on, however, to envisage the process of interpreting and reformulating a propositional symbol as a process where "every sufficiently complete symbol governs things," that is, is seen to articulate "a law" (EP 2:313) and, hence, a "conception of the universe . . . render[ing] things intelligible" (EP 2:322). Hence, the interpretation process at stake is not only a matter of truth-value assignments and reassignment; it is an ongoing articulation of fact integrating a propositional symbol in a larger explanatory scheme, a theory. The notion of a universal domain of objects is formed to account for such a self-correcting and integrating articulation of fact.

Nevertheless, how is the conception of a universal domain of objects to be appreciated within Peirce's architectonic plan? How can the application of this conception avoid the circularity involved in already assuming certain metaphysical notions when turning principles of logic into truths of being? In positive terms, how is Peirce to proceed to metaphysics from a consideration only of "the nature of a symbol" (EP 2:313)

and to view only that as "logical which comes from the essential nature of a symbol" (EP 2:322)? Let us start answering these questions by reconsidering how the conception of a universal domain of objects involves a certain extended application of the category "secondness."

We noted above that, generally, secondness introduces the idea of interpretational constraints on the interpretation of propositional symbols. The conception of a universal domain develops the idea of interpretational constraints in order to account for the assumed directedness of an interpretational process involving propositional symbols. The account of the alleged directedness may proceed not only from abstract considerations but also from more finely tuned semiotic considerations regarding the use of indexicals (demonstratives or personal pronouns).

Generally, through their role in the coordination of experiential perspectives in linguistic interaction, indexicals are cognitively indispensable.[16] In particular, through their use linguistic agents may remain in cognitive contact with something not adequately described by either current or future standards (see Hookway 2000). Indexicals are for this reason instrumental for the reassignment of truth-values to propositional symbols, and hence for their correction and rearticulation. Over time the use of indexicals may even be seen to condition a certain semantic uptake of the cognitive impact from experience on a propositional level, but also indirectly on a lexical-semantic level.

Admittedly, from a purely diachronic view of the semantics of words, it is a contingent matter that the word "electricity mean[s] more now than in the days of Franklin" (5.313), since such semantic changes are due to "some accidental circumstance or set of circumstances, which the history of any word illustrates" (EP 2:317). However, if we study the history of the use of descriptive phrases on a propositional level, such semantic changes may to some extent be seen to be motivated. Through the use of descriptive phrases in sentences containing indexicals, linguistic agents may remain in cognitive contact with something under descriptions later judged inadequate or even false. Hence, linguistic agents may thus keep track with what is indicated but not adequately described; further, given coordinated efforts and persistent inquiry, linguistic agents may revise and reformulate their claims of fact. Sometimes such rearticulations work back on the lexical-semantic system itself and occasion new classifications and even new explanations of empirical phenomena, such as the history of the word "electricity" may show (5.313).

These semiotic considerations qualify the claim concerning the directedness of the interpretations of propositional symbols. However, while the alleged directedness is thus accounted for in terms of interpretational constraints imposed through indexicality and

[16] See Midtgarden 2007.

secondness, Peirce's conception of a universal domain has further implications. The latter suggests a common and objective correlate for all interpretational processes involving propositional symbols, a correlate conceptualized as "the Object of every true Proposition" (4.539). However, as for its architectonic role, it is not clear what is accomplished by its use. Since the aim of introducing the conception is not to ground logical subjecthood in Aristotelian or scholastic substances, the conception suggests a certain hypostatization of secondness in the form of an abstract totality of logical subjects of predications made and yet to be made. Still, as for the architectonic plan and its assumption of a unilateral dependence of metaphysics on logic (semiotics), the conception can provide no non-circular account of the truth of a propositional symbol. More generally, it can give no ontological justification for the bivalence principle. Nevertheless, insofar as the conception is based on semiotic considerations concerning indexicality, these semiotic considerations themselves may counter the charge of truth-value relativism suggested by Peirce's contextual semantics.

6. THE FORM OF A FACT: SEMANTIC STRUCTURE AND ONTOLOGY

We have thus far has been concerned with constraints on the articulation of fact that are assumed to lie outside the utterer's and interpreter's conceptual capacities. Peirce's semiotic, however, further analyzes structural-semantic constraints working from within the interpretational process itself. The latter constraints are analyzed on the basis of the assumption that a "fact is so much of the reality as is represented in a single *proposition*" (6.67) and that "a 'fact' is something having the structure of a proposition" (EP 2:304). This also goes for facts claimed to be directly experienced; against the classical British empiricist and with Kant, Peirce emphasizes that in order to play any role in the justification or critique of knowledge, cognitive representations must have a propositional form (6.95). Sometimes he suggests that propositional articulation is simply a matter of choice, as when he talks about "the form of proposition under which it suits our purpose to state the fact" (3.418). More often, however, his semiotic analysis is concerned with semantic structures assumed to be constitutive of our very abilities to formulate claims of fact.

Taken as part of Peirce's architectonic plan, the analysis at stake may look problematic. The kind of semantic structure studied is not considered solely as language immanent but as standing in some kind of representational relation to a language-external, even mind-external form. We thus face an issue associated with Peirce's scholastic position, sometimes formulated as the issue of how "a Form" is "communicated from the Object through the Sign to the Interpretant" (EP 2:544). Still, the analysis at stake does not make specific claims as to the nature of such representational relation;

in particular, the relation is not qualified as a direct isomorphic or iconic relation. Moreover, what is made the subject of semiotic analysis are the ways in which propositional symbols provide a semantic basis for what Peirce calls "the form of the fact signified" by the propositional symbol (EP 2:408). While this use of the term "form" has ontological import, such import is accounted for in terms of the underlying semantic structure of the propositional symbol. For example, Peirce claims that in "'John is in love with Helen' . . . 'is in love with' signifies the form [which the propositional symbol] represents itself to represent John-and-Helen's Form to be" (EP 2:478). Hence, no direct or iconic relation between forms of different ontological dimensions (language internal versus language external) is assumed. Still, what constitutes the semantic form or structure in virtue of which the ontological form is represented?

The semantic structure at stake is not given simply by the extensional form of predicates or relational terms in the sense in which, say, an ordered pair is signified by a dyadic term (EP 2:478). Form in the latter sense would be given linguistically by "the form of a verb" in that the "verb in the indicative mood [is taken] out of its context" (EP 2:408). Rather, the semantic structure at issue is such that, in the context of a sentence, the semantic arguments of a verb would have certain distinct characters. "For a large number of verbs," Peirce points out, their "partial objects [i.e., their semantic arguments] often have distinct characters which are the same . . . Thus, the partial objects of an ordinary transitive verb are an *agent* and a *patient*" (EP 2:408, my emphasis). In fact, not only in English but also, generally, in "languages that are familiar to us," we find "the distinction of *agent* and *patient*" (EP 2:170). In terms of modern lexical semantics, such distinctive characters are qualified as thematic roles (or theta-roles) for semantic arguments of verbs; indeed, thematic roles are crucial for analyzing semantic argument structure across natural languages. For Peirce, however, semantic argument structure is a key to the ontological structure of facts: "distinctive characters," he says, "are derived from the form of the fact signified" (EP 2:408). What, then, are the methodological and ontological implications of talking about distinctive characters and about the form of a fact?

First, to introduce the notion of distinctive characters in semiotic theory does not involve commitment to a metaphysical theory of abstract entities in some Platonic sense. Still, although the semiotician or "logician is not concerned with any metaphysical theory" (EP 2:304),

> it is highly convenient to express ourselves in terms of a metaphysical theory; and we no more bind ourselves to an acceptance of it than we do when we use substantives such as "humanity," "variety," etc., and speak of them as if they were substances, in the metaphysical sense. (EP 2:304)

Likewise, the distinctive characters (or thematic roles) of agent and patient are not to be understood as metaphysical substances. As for their methodological status, however, such distinctive characters may be made grammatically manifest by changing the form of a sentence by introducing a transitive verb the grammatical object of which expresses an *ens rationis*, that is, something created through the use of our rational capacities. The semantic process at stake is that of Peirce's notorious hypostatic abstraction:

> "The rose smells sweetly" is by hypostatic abstraction converted into "The rose possesses a delightful perfume." So "Cain killed Abel" is changed to "Cain caused the death of Abel." Perfume and death are *hypostatical abstractions*. They denote *entia rationis*. . . . They are predicates; namely, qualities, dyadic relations, triadic relations, etc. (NEM III/1:763)

From a purely linguistic point of view the hypostatized elements are part and parcel of the argument structures of the sentences resulting from the grammatical changes exemplified. Still, the examples strongly suggest that the semantic processes underlying the grammatical changes are not only *linguistic*-semantic processes but also *conceptual*-semantic processes expressed through a linguistically structured medium.[17] From a logical point of view, the *entia rationis* expressed are somehow related to the two predications expressed by the original sentences; however, the hypostatized elements expressed by the new predicates (relational terms) do not by themselves introduce a new ontological dimension. Peirce suggests that such abstractions mark "mere logical possibilities" (4.514), in contradistinction to "existential fact[s]" (4.514); at the same time, however, he underscores that "an abstraction is an *ens rationis* whose being consists in the truth of an ordinary predication" (3.642). More explicitly, hypostatic abstraction may operate in such a way as

> to take propositional form in a [one-subject] judgement (indeed it may operate upon any judgement whatsoever), and in conceiving this fact to consist in the relation between the subject of that judgement and another subject, which has the mode of being that merely consists in the truth of propositions of which the

[17] In a logical writing from 1892 ("The Critic of Argument") Peirce likewise considers the role of abstract nouns (as grammatical objects of transitive verbs) in ways of conceptualizing facts: "When you think 'this is blue' the demonstrative 'this' shows you are thinking of something just brought up to your notice; while the adjective shows that you recognize a familiar idea as applicable to it. Thus your thought, when explicated, develops into the thought of a fact concerning this thing and concerning the character of blueness. Still, it must be admitted that, antecedently to unwrapping of your thought, you were not actually thinking of blueness as a distinct object, and therefore were not thinking of the relation as a relation" (3.417).

> corresponding term is the predicate. Thus we transform the proposition, "honey is sweet," into "honey possesses sweetness." "Sweetness" might be called a fictitious thing, in one sense. But since the mode of being attributed to it *consists* in no more than the fact that some things are sweet, and it is not pretended, or imagined, that it has any other mode of being, there is, after all, no fiction. The only profession made is that we consider the fact of honey being sweet under the form of a [dyadic] relation; and so we really can. (4.236)

What, then, is the theoretical point of considering a fact expressed by the use of a monadic predicate under the form of a relation?

Peirce's various examples suggests the following: the sentences containing abstract nouns mark the first step in a general explanation of the particular facts claimed by means of the original sentences. The theoretical point of the *entia rationis* is such that, sometimes, they contribute conceptually to the articulation of some state of affairs that may account for the facts claimed to be expressed by "an ordinary predication" (3.462). To take Peirce's favorite example: by transforming "Opium puts people to sleep" to "Opium possesses a power of causing sleep," one goes from a general *description* conveyed by the first sentence to the suggestion of a "true *explanation* of opium's generally putting people to sleep" (4.234, my emphasis). The second sentence above conceptualizes causal agency in abstract terms, a conceptualization presumably obtained through the agent-patient distinction. Yet since the second sentence provides only a coarse-grained conceptual framework for an explanation, let us pause to note how such a conceptualization is to be developed.

By appealing to a "true explanation" (4.234), Peirce hints at a general way in which causal relata, cause and effect, may be conceptualized. While a hypostatized "power" (4.234) is introduced, causal agency is not to be conceived in terms of some substance-like entity. Also, neither cause nor effect is thought of as a singular event; rather, each is seen as a propositionally structured fact:

> That which is caused, the *causatum*, is, not the entire event,[18] but such abstracted element of an event as is expressible in a proposition, or what we call a "fact." The cause is another "fact." (EP 2:315)

Further, insofar as a causal "power" (4.234) is thought to underlie a succession of events, what is suggested is a propositional articulation involving such categorization of phenomena as would reveal regularities. As Manley Thompson has observed, for Peirce, "cause" is to be understood "as meaning a statement of the conditions which

[18] For a useful discussion of Peirce's distinction between fact and event, see Hulswit 2001.

must obtain whenever a particular *sort* of event occurs—the conditions which make up the property of being an event of *such and such a kind*" (1953, 94, my emphasis). The distinct contribution made by the process of hypostatic abstraction is here to facilitate a replacement of predicates rendering an event improbable or extraordinary by predicates by means of which the event may be accounted for as following on known principles.[19] The event may thus be reconceptualized as an element in a causal sequence.

However, several of Peirce's hypostatic abstractions do not directly suggest a particular form of explanation. A problematic case is the transformation of a simple color predicate such as "is blue" into "possesses the character of blueness." The abstract noun introduced gives a semantic focus that seems to prepare some kind of theoretical account of the color. However, Peirce is not altogether clear whether the proper study of, say, blueness would belong to a phenomenological inquiry regarding "universal Qualities of Phenomena in their immediate character" (5.122)—which would assume the explanatory adequacy of the category "firstness"—or if the semantic focus may rather prepare a standard physical explanation of colors regarding the "existential condition, which causes the emitted light to have short mean wave length" (EP 2:495).[20]

More typical of Peirce's account, however, are conceptual-semantic processes relating to sentences expressing facts claimed about social actions. The argument structure of such sentences may often be analyzed in terms of the agent-patient distinction. Still, although this distinction is involved in descriptions of actions that are best explained causally (e.g., "Cain kills Abel"), Peirce is more concerned about its bearing on explanations of a non-causal kind. For example, for sentences containing the verb "give," Peirce insists that the verb's semantic arguments are not to be conceived in terms of sets

[19] See how Peirce sometimes defines the term "explanation": "*Explanation* . . . is the replacement of a complex predicate, or one which seems improbable or extraordinary, by a simple predicate from which the complex predicate follows on known principles" (6.612).

[20] Peirce does, however, try to combine a phenomenological approach to colors with a physical approach. On one hand, he insists that "a color is a quality of a thing which remains the same whether it be exposed to one kind of illumination or to another, and whether it be seen by a normal or a color-blind eye" (6.327). This seems to satisfy the requirements associated with his category "firstness" that the qualities studied should be universal (5.116, 5.122) and that the study should not be psychological (1.285) or use any specialized methods or instruments (1.241). On the other hand, he also admits that "the color of an object is the admixture of lights necessary to producing the same chromatic effect (1) upon a normal eye, in the absence of any perturbing cause, and (2) under a moderate white illumination" (5.327). He relates these two otherwise opposing perspectives only by arguing that color is something "essentially vague," since "two white illuminations may be quite indistinguishable and yet may be produced by two lights of such different compositions that it is possible to find two colored objects such that the one will to all normal eyes plainly appear to be of the warmer color under one of the two white illuminations, while the other object will as obviously appear to be the warmer color under the other illumination; though the two illuminations are absolutely indistinguishable when viewed directly without being reflected" (6.327).

of dyadic relations (3.424) of reacting pairs (EP 2:385); such sentences rather express what Peirce calls "an intellectual" or genuinely "*triadic* fact" (EP 2:171).[21] What, then, is the triadic fact of giving?

As a "mere affair of English grammar" (EP 2:171), one and the same fact could be described in six different ways:

> A gives B to C. A benefits C with B.
> B enriches C at the expense of A. C receives B from A.
> C thanks A for B. B leaves A for C.

What makes the fact thus expressed triadic, however, is not per se that these sentences contain the same three arguments; it is rather a matter of how the meaning of the verb "give" is seen to confer conceptual "functions" on the semantic arguments (EP 2:171). Presumably by the process of hypostatic abstraction, it can be seen that argument B "receives a character which can neither exist nor be conceived to exist without the co-operation of the other two [arguments]" (EP 2:171). A conceptual analysis is thus suggested by which the act would require an offer on the part of the giver and an acceptance on the part of the receiver. Noting generally that, as an intellectual fact, a "three-subject fact is *comprehensible* and is analogous to an utterance, a speech" (6.323, my emphasis), such acts would also require understanding on the part of the receiver. Typically, acts of this sort have conventional states of affairs as their results, that is, states of affairs determined by a normatively binding consensus, such as by the signing of a contract (1.475). Conceptual analysis thus suggests a crude explanatory structure for social actions, a structure in virtue of which the process-aspects as well as the product-aspects of the act are conceived not in causal terms but in terms of an intersubjectively sustained fact.[22]

Generally, assuming that Peirce's hypostatic abstraction prepares or facilitates the conceptualization of explanatory structures of various sorts, we may now see such structures as applying to facts of ontologically different kinds. More specifically, what is suggested is an ontologically qualified distinction between different types of scientific objects, a distinction that accords with Peirce's overall division between social (or human) sciences and natural sciences. As for the natural sciences, he emphasizes that they engage in explanations assuming efficient causation, while the social sciences

[21] In his logical work, Peirce defended the view that triadic relations cannot be defined in terms of dyadic relations, and that relations with a valence higher than three can be analyzed in terms of triadic relations. For a useful discussion of this attempt, see Hookway 1985, 97–101.

[22] In speech act theoretical terminology, one may here consider the distinction between facts analyzed through the semantics of illocutionary verbs and facts analyzed through the semantics of perlocutionary verbs.

assume final causation (1.242). However, while his hypostatic abstraction provides only the first step in the conceptualization of processes and entities thus differently explained, the ontological claims involved seem to be posed on a lower level of generality than that of a *metaphysica generalis* traditionally conceived. Still, certain features speak against that the claims could be identified with those of a *metaphysica specialis*. First, the conceptualizations at stake proceed from general semiotic considerations concerning how facts may be propositionally articulated at all. Compared to Kant's *Architektonik*, the conceptualizations would thus rather belong to a *Propädeutik* or a *Kritik* (concerned with an investigation into the general capacities for cognition) than to a *Metaphysik* (concerned with either the principles of *Natur* or those of *Sitten*) (Kant 1982, B 869). In Peirce's own classificatory scheme, the conceptualizations would only provide a formal justification and motivation of the division between a nomological psychics and a nomological physics (3.427). In particular, in accounting for triadic facts, the semiotician would be concerned only with conceptual-semantic issues, not with doing nomological psychics by spelling out the law of mind (6.102–63).

While we have now focused on the ontological implications of Peirce's hypostatic abstraction, there is reason to inquire into the epistemic relation between, on one hand, the conceptual analyses suggested by his hypostatic abstraction and, on the other, the ontological structures assumed. Are the latter assumed to exist as knowable only in virtue of the very conceptual analyses? If so, the conceptual structures established through hypostatic abstraction would have a priori status. For clarification, we may consider Peirce's general semiotic qualification of sentences expressing the results of hypostatic abstraction.

As we have seen, the conceptual-semantic process of hypostatic abstraction changes the grammatical (and sometimes logical) form of the sentences serving as starting points for the process. Generally, a hypostatic abstraction throws "into the subject everything that can be removed from the predicate" (Peirce 1966, 396). Since the sentence thus formed expresses an underlying conceptual-semantic continuity between the new abstract semantic argument(s) and the original predicate, it is called a continuant (EP 2:485). On Peirce's account, continuants give syntactic expression to certain conceptually primitive structures; continuants "*cannot be explicated*: they must convey Familiar universal elementary relations of logic" (EP 2:485).[23] Yet, since the starting

[23] In somewhat more technical terms, Peirce sometimes presents such conceptions as "relatives of second intention" (3.490): "For all considerable steps in ratiocination, the reasoner has to treat qualities, or collections (they only differ grammatically), and especially relations, or systems, as object of relation about which propositions are asserted and inferences drawn. It is, therefore, necessary to make a special study of the relatives '—is a member in the collection—,' and '—is in the relation—to—.' The key to all that amounts to much in symbolic logic lies in the symbolization of these relations" (4.390).

point for analysis is "an ordinary predication" (3.462), and since the analyses aim at explanatory structure, such conceptual structures have general epistemic and ontological significance as well. Further, as to their origin, Peirce claims that "we do not derive these notions from observation, nor by any sense of being opposed, but from our own reason" (EP 2:485). This suggests that while the structures at issue might indirectly receive confirmation through empirical inquiries, they are made knowable in virtue of the very conceptual processes. The results of such conceptual processes would seem to have a certain a priori status. Still, this needs further qualification.

First, an ontological structure conceptualized through hypostatic abstraction is general in the negative sense that it does not specify empirical conditions under which particular predicates are applicable. But it is also general in that it is to be applicable to processes or activities of a certain ontological type, either causal or conventional. In both respects the ontological claims involved are therefore different from the claim implied by the pragmatic account of predication in terms of would-be conditionals, that is, the claim that some such conditionals refer to laws or dispositions in the ontological mode of "real Possibility" (EP 2:357). However, since the pragmatic account typically clarifies the applicability of particular predicates in specific contexts of inquiry, and since the conceptual-semantic analyses achieved through hypostatic abstraction prepare explanatory approaches required in different forms of inquiry (in either natural or social science), the pragmatic account may be said to depend on the conceptual-semantic analyses and the epistemic and ontological claims associated with them.

Second, although the ontological structures conceptualized through hypostatic abstraction could be qualified as relations of reason (in contradistinction to relations *in re* [1.566–7]), they must be expressed syntactically through continuants and thus be revealed to us a posteriori through the medium of linguistic structure. Indeed, Peirce even defines a relation of reason as a "relation which could be veritably described to a person who had no experience of it"—which means that it is "a relation through a sign: that is why it is dicible" (EP 2:382–83), that is, expressible or sayable. Indeed, in virtue of being sign mediated, the results of a hypostatic abstraction is subject to a "mediation" that "takes the form of a dialogue" (6.481). The conceptual process may even be worked out in actual dialogue between philosophical inquirers. In any case, as for the results of such processes, they are established through linguistic activity, not only through linguistic or conceptual structure.

7. FINAL REMARKS

Although Peirce's pragmatic account of predication in terms of would-be conditionals carries ontological implications and may thus function as a point of transition between logic and metaphysics, we have found these implications problematic on the basis of

Peirce's architectonic plan for constructing metaphysical systems. However, the pragmatic account does invite general semiotic considerations on the nature of propositional symbols as articulations of facts, and from such considerations we have identified two more or less successful attempts to construe metaphysical distinctions according to the architectonic plan. Let us sum up some of our findings such that we may shed light on Peirce's role in the history of logical theory.

We started out by mentioning some alleged points of divergence between Peirce and Frege. Among these were Frege's view of his logical language as the universal medium and Peirce's membership in the model-theoretic tradition (Hintikka 1997). As for the claim regarding Peirce, our findings may provide reasons for contesting this claim or at least rendering it problematic.

For example, a thinker from the model-theoretic tradition holds that, through a reinterpretation of the logical language, we may change the universe of discourse (the domain of individuals) we talk about, while a universalist such as Frege claims that the quantifiers of the logical language always have the same universal range. However, we have seen that, despite the fact that Peirce developed and reinterpreted his logical languages, he introduces in later years (from 1905 onward) the conception of "the Universal Universe or aggregate of all Singulars" (EP 2:168). Admittedly, it is not totally clear what this conception amounts to in ontological terms; and insofar as it is clear, it could not simply be replaced by Frege's universal universe over which quantifiers range. To belong to the totality of singulars or real objects is not, on Peirce's account, to be anything that we could talk about in a given theoretical language, concrete and abstract subjects (such as numbers) alike. Rather, an object is such that it may become a logical subject of our current or future articulation of fact; it actually constrains our current efforts to articulate fact in the face of experience, and it may typically be referred to by an indexical. Still, Peirce's conception of a universal universe makes him less easily classifiable according to the dichotomous scheme applied by Jaakko Hintikka.

Further, Peirce's semiotic analysis of conceptual-semantic conditions for the articulation of fact, may also provide reasons for questioning Hintikka's classification of Peirce in the history of logical theory. To put this semiotic analysis in relevant perspective, we may first consider briefly one of Hintikka's interpretative claims. On his account, Peirce's application of the semiotic notion of iconicity is among the things that make Peirce belong to the model-theoretic tradition:

> Peirce's model-theoretical attitude is revealed by his emphasis on the role of icons in logic, reasoning, and thinking in general. . . . Another way of expressing the iconic relation of a sign to what it represents is to say that the sign is a model of what it stands for in a sense not completely different from logicians' use of the term. (Hintikka 1997, 24)

Our purpose is here not to contest the fruitfulness of this way of seeing Peirce's use of the term "iconical" in characterizing, say, complex quantificational expressions (3.398); indeed, the important paper in which that characterization occurs ("On the Algebra of Logic: A Contribution to the Philosophy of Notation" [1885]), as well as Peirce's earlier works, is a historical precursor of the work of Löwenheim and Skolem (through the work of Ernst Schröder), as is well documented (see Brady 1997). Our concern here is that Hintikka seems to ignore one important aspect of Peirce's semiotic notion of iconicity relevant for our findings, and that this has bearings on Hintikka's overall interpretation of Peirce.

Insofar as Peirce applies the notion of iconicity in a general fashion, to both natural and logical languages, it would not imply "the free re-interpretability of language," as Hintikka suggests (1997, 23); rather, in speculative grammar the notion guides the analysis of certain regular ways in which semantic contents are expressed syntactically (at the levels of phrase, clause, and sentence) across natural languages.[24] This general notion of iconicity is at stake also when conceptual analyses are expressed through sentences of a natural language. We have seen that the results of Peirce's hypostatic abstraction are expressed syntactically by so-called continuants, and that sentences using continuants are assumed to reflect certain primitive conceptual structures: continuants "*cannot be explicated*: they must convey Familiar universal elementary relations of logic" (EP 2:485). Recall also that the ontological point of the semantic process of hypostatic abstraction is to conceptualize facts of different general kinds; Peirce would hold that, even in science and in the interpretation of a logical language, our ways of representing states of affairs in the world are conditioned by certain general and conceptually primitive structures.

In conclusion, we claim that textual evidence does not unequivocally support the interpretation that Peirce would defend a model-theoretic view, rather than a universalist view. In other words, the dichotomous scheme assumed by Hintikka does not fit Peirce's logical theory very well.

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[24] See Midtgarden 2002 and 2007.

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10

GEORG CANTOR'S PARADISE, METAPHYSICS, AND HUSSERLIAN LOGIC

Claire Ortiz Hill

INTRODUCTION

Twentieth-century schools of thought as diverse as those associated with Friedrich Nietzsche, Karl Marx, Bertrand Russell, the Vienna Circle, Martin Heidegger, Rudolf Carnap, Jean-Paul Sartre, Willard Van Orman Quine, certain partisans of secular political systems, and so on all strove to shut the doors to metaphysical inquiry. This profound philosophical antagonism toward metaphysics acted on several fronts to discredit, undermine, proscribe, or kill a wide range of metaphysical notions associated, rightly or wrongly, with the follies and excesses of nineteenth-century idealism, whether transcendental, subjective, absolute, or religious, associated with the names of people such as Kant, Hegel, and Bradley, not to mention Jesus Christ.

One of the principal strategies adopted by Russell, Carnap, Quine, and like-minded philosophers was to create an inhospitable climate for metaphysical thought through a transformation of logic. Set-theoretical notions appeared as promising instruments for achieving their ends, and through *Principia Mathematica* (Russell 1964) and related systems, which did so much to determine the course of modern logic, basic ideas of set theory came to play a key role in laying the logical foundations for analytic philosophy's well-known scheme to overcome metaphysics.

However, there is another story to be told, one with a different ending. For while it is well known that work on set theory had a role to play in shaping the destiny of analytic philosophy, Edmund Husserl, the founder of the rival phenomenological school, is not generally perceived as having considered set theory tempting at all, and the tale of his encounter with it decades before the logic shaped by *Principia Mathematica* and kindred systems took hold is barely known.

Adepts of the analytic and Husserlian schools have seemed to almost everybody to have been at odds from the very beginning, and irreconcilable differences of logic and metaphysics have most often been cited as the cause of their estrangement. Yet however

incompatible analytic philosophy and phenomenology turned out to be, variations on Georg Cantor's set theory played a preeminent role in developing logic and in redrawing the boundaries between it and metaphysics in both schools. So, along with Bernard Bolzano, Franz Brentano, and Hermann Lotze, Cantor deserves to be ranked as one of the progenitors of both analytic philosophy and phenomenology. Here I seek to add new dimensions to standard discussions by taking readers back to the place where the two logical roads diverged and affording them a look down the one less traveled by, the Husserlian one not taken by mainstream logicians in the twentieth century.

ON THE ROOTS OF THE STRONGLY ANTI-METAPHYSICAL ANIMUS OF THE TWENTIETH CENTURY

A rediscovery of metaphysics took place during the final years of the nineteenth century. Emblematic of those playing roles in rehabilitating the respectability of metaphysical inquiry was Hermann Lotze. In *A Critical Account of the Philosophy of Lotze, the Doctrine of Thought*, published in 1895, Henry Jones of the University of Glasgow explained Lotze's "power" over his age as having sprung from the fact that he dealt with problems that it saw as vital and solved them in a way that, on the whole, accorded with its convictions. For Jones, Lotze's relation to Hegel, on one hand, and to the pure Naturalists, on the other, and his attempt to correct the errors of both by recourse to the teachings of Kant made Lotze "a most interesting figure in the history of philosophic thought" (Jones 1895, 32). He seemed, Jones wrote,

> to have restored to us possessions which Kant and his immediate followers had made insecure, and which the Materialists and the Pessimists had rendered untenable. In the service of these convictions, he has, at least for the time, stemmed the tide of Idealism and given pause to that ambitious Monism which seemed to have confused the old boundaries of thought, mingling together nature and spirit, good and evil, things and thought, the human and the divine. In the same interest he has also "stayed the Bacchic dance of the Materialists," who had occupied the place left vacant by the spent Idealism. So that it is no matter for surprise that some . . . should consider that they owe it to Lotze . . . that, after the reign of chaos, there is once more "a firmament in the midst of the waters, dividing the waters from the waters." (Jones 1895, 3–4)

"The yearning for the real, or at least the palpable and the particular, under whose impulse the thought of Lotze's day threw itself upon the natural world of perceptible facts and events, and which seemed to be the direct and necessary consequence of confining the German people to the thin Hegelian diet of abstract and ambitious

Idealism, had complete possession of Lotze," according to Jones (1895, 31–32). Hegelian idealism, Jones explains, seemed to Lotze "to reduce the world to a 'solemn shadow-land' of general conceptions, to convert the infinite variety of its chances and changes into a system of logical notions at once empty and ruled by necessity . . . to be an attempt to establish a universal mechanism, which was not the less fixed and relentless because it was called 'spiritual'" (Jones 1895, 10).

Jones considered that "Lotze possibly divined a truth which is ever becoming clearer, that there is a close affinity between natural science and Idealism, that modern science when it understands itself is idealistic in temper and tendency . . ." (Jones 1895, 8). "It is not Idealism with its spiritual construction of the world that is at war with the inner spirit of science," Jones maintained, "but the scepticism which . . . conceals its true nature under the names of Dualism and Agnosticism" (Jones 1895, 8).

Much the same understanding of Lotze and his times is conveyed in a 1902 Paris doctoral thesis on Lotze's metaphysics by Henri Schoen, who explained how Lotze had inspired courage in worried and tormented consciences, how he had been able to communicate faith in the triumph of a spiritualistic conception of the world to young people whose confidence had been shaken by the ineffectiveness of idealism and the successes of materialism. To those impressed by positivism, he had showed an exact method starting from observation and not a priori reasoning. He had taught a generation disgusted with abstractions to start from given facts and their relations among themselves and to them. Schoen saw his generation as being disgusted with materialism, with vague and confused aspirations, but disposed to accept a metaphysics that was not in contradiction with its scientific views. He explains how he had been guided and had tried to guide his students through the philosophical and psychological crisis of German metaphysics; how he had felt that it was impossible to go back to the old dogmatism but also recognized the inadequacy of pure reason; how, eclipsed by idealism, Kant's realism was to wreak vengeance in the modern metaphysics of the end of the nineteenth century, whose goal it was to develop the seeds of realism contained in Kant's doctrine, but not the idealism found there as well.

For Schoen, the true method fell midway between pure criticism and absolute idealism. The old extreme skepticism and naive dogmatism both had become untenable. There was an equal balance to be maintained between the realm of the ideal and reality, between the things of the supra-sensible world and the things of the real world. After having been at the point of doubting the future of spiritualistic metaphysics, Schoen said that he came to understand that genuine criticism ultimately gives back more than it takes away. Far from attacking metaphysics, most genuine scholars recognize the mystery where their science is obliged to stop. Schoen expressed complete confidence in the future of metaphysics (Schoen 1902, 8–9, 18, 22–23).

Since much discourse in recent times seems wrongly to assume that the late nineteenth century could not see beyond the metaphysical dictates of a very conventional form of Christianity, it is important to stress that many were eagerly casting off its shackles and that, once liberated, some of them were engaging in behavior deemed irrational, superstitious, and unsavory by scientifically minded thinkers. While the end of the nineteenth century did witness attempts to rehabilitate the respectability of metaphysical inquiry and to situate it centrally on the philosophical agenda alongside rigorous, rational, scientific thinking, there was another, more deeply disturbing dimension in the turn toward metaphysics at that time.

A chapter of Nicholas Goodrick-Clarke's study of the occult roots of Nazism is devoted to the modern German occult revival from 1880 to 1910. Though modern occultism was represented by many varied forms, he explains, its function appeared relatively uniform.

> Behind the mantic systems of astrology, phrenology and palmistry, no less the doctrines of theosophy, the quasi-sciences of "dynamosophy," animal magnetism and hypnotism, and a textual antiquarianism concerning the esoteric literature of traditional cabbalists, Rosicrucians, and alchemists, there lay a strong desire to reconcile the findings of modern natural science with a religious view that could restore man to a position of centrality and dignity in the universe. Occult science tended to stress man's intimate and meaningful relationship with the cosmos in terms of "revealed" correspondences between the microcosm and macrocosm, and strove to counter materialist science, with its emphasis upon tangible and measurable phenomena and its neglect of invisible qualities respecting the spirit and the emotions. These new "metaphysical" sciences gave individuals a holistic view of themselves and the world in which they lived. This view conferred both a sense of participation in a total meaningful order and, through divination, a means of planning one's affairs in accordance with this order. (Goodrick-Clarke 1992, 29)

So it is that while some took up arms against mystical and idealistic philosophies, others revolted against the various forms of positivism, empiricism, naturalism, and materialism that they felt modernity was foisting upon them. Much like the end of the twentieth century, the end of the nineteenth century witnessed growing participation in cults, spiritism, Satanism, the occult, magic, witchcraft, and so on, and this surely did its share to fan antagonism toward metaphysics, or even fear of it, and to inflame desires to defeat it.

GEORG CANTOR AND THE METAPHYSICAL SCIENCES

In his quirky way, Georg Cantor was part of the movement to reconcile the findings of modern natural science with metaphysical views. An avowed adversary of psychologism,

positivism, the new empiricism, sensualism, skepticism, Kantianism, naturalism, and related trends, he was an enthusiastic metaphysician. In 1894, he wrote to the French mathematician Charles Hermite that "in the realm of the spirit" mathematics had ceased to be "the essential love of his soul" more than twenty years earlier. Metaphysics and theology, he "openly confess[ed]," had so taken possession of his soul as to leave him relatively little time for his "first flame" (Cantor 1991, 350). In 1884, he had expressed his high regard for metaphysics and his belief in a close alliance between metaphysics and mathematics. He expressed gratitude for the honor of having had philosophical and even metaphysical worth accorded to his writings (Cantor 1884, 83–84).

Cantor considered that his theories showed the way to a new, abstract realm of ideal mathematical objects that could not be directly perceived or intuited (Cantor 1883, 207 nn. 6, 7, 8; Cantor 1887–88, 418 n. 1) and that the transfinite realm he was exploring "presented a rich, ever growing field of ideal research" (Cantor 1887–88, 406). For example, in 1895, we find him writing to Hermite that: "the reality and absolute uniformity of the whole numbers seems to be *much stronger* than that of the world of senses. That this is so has a single and quite simple ground, namely the whole numbers both separately and in their actual infinite totality exist in that highest kind of reality as eternal ideas in the Divine Intellect" (cited in Hallett 1984, 149).

Cantor wanted to provide his numbers with adequate metaphysical foundations, and he filled his writings about set theory with metaphysical reflections aimed at explaining and justifying his novel ideas to a readership chary of such talk (see, e.g., Cantor 1991, 100, 113, 118, 178, 199, 227). In an 1890 letter to Giuseppe Veronese, Cantor wrote that contradictions found in his theories were merely apparent and that one must distinguish between the numbers that we can grasp in our limited ways and "numbers as they are *in and for themselves, and in and for the Absolute intelligence*," each of which "is a simple concept and a unity, just as much a unity as one itself. Taken absolutely," he told him, "the smaller numbers are only *virtually* contained in the bigger ones. They are, taken absolutely, all independent one from the other, all equally good and all equally necessary metaphysically" (Cantor 1991, 326).

Cantor was also explicit about the precise nature of the metaphysical foundations that he envisioned for his numbers. He stressed that the "certainly realist, at the same time, however, no less than idealist foundations" of his reflections were essentially in agreement with the basic principles of Platonism (Cantor 1883, 181, 206 n. 6). "My idealism," he wrote to Paul Tannery, "is related to the Aristotelian-Platonic kind, which as you know is at the same time a form of *realism*. I am just as much a *realist* as an *idealist*" (Cantor 1991, 323). To Peano, Cantor once wrote: "I conceive of numbers as 'forms' or 'species' (general concepts) of sets. In essentials this is the conception of the ancient geometry of Plato, Aristotle, Euclid etc." (Cantor 1991, 365). By "manifold" or "set," he said, he generally meant "any Many which can be thought of as a One, any totality of

determinate objects which can be united by a law into a whole," and thus was defining something related to the Platonic *eidos* or Idea and to what Plato called a *mikton* (Cantor, 1883, 204 n. 1). He believed that the whole real numbers were "related to the *arithmoi noetoi* or *eidetikoi* of Plato with which they probably even fully coincide" and that his transfinite numbers were but a special form of these *eidetikoi* (Cantor 1887–88, 420; Cantor 1884, 84).

"No one shall be able to drive us from the paradise that Cantor created for us," David Hilbert is famous for having declared (Hilbert 1925, 376), but Cantor's colleagues did not find everything about that paradise tempting. Gösta Mittag-Leffler warned Cantor in 1883 that his work would be much more easily appreciated in the mathematical world "without the philosophical and historical explanations" (Cantor 1991, 118). In 1885, Mittag-Leffler warned him that his new terminology and philosophical way of expressing himself might be so frightening to mathematicians as to seriously damage his reputation among them (Cantor 1991, 241).

A chapter of Joseph Dauben's *Georg Cantor, His Mathematics and Philosophy of the Infinite* is devoted to studying Cantor's personality. In it, Dauben cites an 1862 letter in which Cantor wrote to his father: "My soul, my entire being lives in my calling; whatever one wants and is able to do, whatever it is toward which an unknown, secret voice calls him, *that* he will carry through to success!" (Dauben 1979, 277). For Dauben,

> there can be no mistake about Cantor's identification of his mathematics with some greater absolute unity in God. This also paralleled his identification of transfinite set theory with divine inspiration. . . . Cantor . . . told Mittag-Leffler that his transfinite numbers had been communicated to him from a "more powerful energy"; that he was only the means by which set theory might be made known. . . . The religious dimension which Cantor attributed to the *Transfinitum* should not be discounted as merely an aberration. Nor should it be forgotten or separated from his life as a mathematician. The theological side of Cantor's set theory . . . is . . . essential for the full understanding of his theory and the development he gave it. Cantor believed that God endowed the transfinite numbers with a reality making them very special. . . . He felt a duty to keep on, in the face of all adversity, to bring the insights he had been given as God's messenger to mathematicians everywhere. (Dauben 1979, 290–91)

The fact of the matter is that Cantor's views were more than just metaphysical, religious, or even mystical. His still-unpublished letters from the 1880s and 1890s reveal a robust interest in the occult, something of which Gottlob Frege may have had an inkling, for in a posthumously published draft of a review of Cantor's *Contributions to the Theory of the Transfinite*, Frege refers mockingly to "magical effects," the pronouncing of a "magic

incantation," "supernatural powers," the possession of "miraculous powers . . . not far removed from the Almighty," and even alludes to someone who "hears an inner voice whispering" (Frege 1979, 68–71). Interestingly, some of these very criticisms figure in Frege's irresponsible review of Husserl's *Philosophy of Arithmetic*, a review that has been lent far more credence than it deserves (Frege 1894; see also Hill and Rosado Haddock 2000, ch. 6).

TROUBLE IN CANTOR'S "PARADISE"

In 1886, Edmund Husserl arrived at the University of Halle to prepare his *Habilitationsschrift* called *On the Concept of Number* (Husserl 2003a, 305–56). Cantor served on the *Habilitation* committee and approved the mathematical portion of the work (Gerlach and Sepp 1994). He took a liking to his younger colleague and was very supportive of him. Husserl's wife remembered that "Cantor, the greatest mathematician since Gauss, the creator of set theory (a new and very fruitful branch of mathematics)," loved her husband tenderly (*liebte H. zärtlich*). "They were alike in many ways," she commented, "but with otherwise great dissimilarity. The Cantors' house was like home . . . " (M. Husserl 1988, §E). Letters from the same letter books that reveal Cantor's involvement in the occult also find him multiplying efforts to find Husserl an official professorship (Cantor, 1884–96; Cantor 1991).

Husserl remained in Halle for the next fifteen years, enough time to have more than just a taste of Cantor's ideas at the very time he was creating his paradise (Hill and Rosado Haddock 2000, chs. 7, 8). During those years, Cantor was coping with the antinomies of set theory through, for example, his correspondence with David Hilbert (Cantor 1991, 387–485; Dauben 1979, 240–70). As Joseph Dauben has commented, it is "not a little ironic" that the first mathematician to discover the antinomies of set theory was Cantor himself, who had anticipated the problem and by 1895 was already "trying to remedy the paradoxes with a minimum of damage to his system of transfinite numbers" (Dauben 1979, 241). Using his diagonalization proof of 1891 (Dauben 1979, 165–68), Cantor "could argue that the set of all sets had to give rise to a set of larger cardinality; the set of all its subsets. But since this set had to be a member of the set of all sets, the paradoxical conclusion was inevitable that a set of lower cardinality actually contained a set of higher cardinality" (Dauben 1979, 242).

So it was that Husserl had a foretaste of the crisis in foundations that broke out once Cantor's proof by diagonal argument that there is no greatest cardinal number opened Bertrand Russell's eyes to the contradiction of the set of all sets that are not members of themselves and Russell began advertising that finding (Russell 1903, §§100, 344, 500; Russell 1985, 58–61; Grattan-Guinness 1978, 1980, 2000).

The first four chapters of Husserl's *On the Concept of Number* would go into the making of his 1891 *Philosophy of Arithmetic*, a book characterized by him in *Formal and Transcendental Logic* as having been an initial attempt on his part "to obtain clarity regarding the original genuine meaning of the fundamental concepts of the theory of sets and cardinal numbers" ("Klarheit über den ursprungssechten Sinn der Grundbegriffe der Mengen- und Anzahlenlehre zu gewinnen") (Husserl 1969, §27a, also §24 and n.; Hill 2002). However, from the very beginning Husserl displayed a critical attitude toward aspects of set theory. Chapter XI of *Philosophy of Arithmetic* contains a discussion of the logical problems of infinite sets (Husserl 2003a, 230–34). Husserl's deep reservations about a calculus of classes is much in evidence in articles published during the 1890s (Husserl 1994b, 92–114, 115–30, 135–38, 199, 443–51), in which he sought to show that the total formal basis upon which the class calculus rests was valid for the relationships between conceptual objects, and that one could solve logical problems without the detour through classes, which he considered to be totally superfluous. He was advocating a calculus of concepts (Husserl 1994b, 109, 123). His chief target in those days was Ernst Schröder. An article dated 1891 finds him arguing that Schröder's attempt to show that bringing all possible objects of thought into a class gives rise to contradictions (Husserl 1994b, 84–85).

Husserl also quickly adopted a critical attitude toward his own attempts to clarify the true meaning of the fundamental concepts of the theory of sets and cardinal numbers using the empiricistic approach that he had learned from Franz Brentano, whose austere ideal of a strict, philosophic science was most nearly realized in the exact natural sciences. Brentano's clear, rigorous, insightful, objective, precise philosophical analyses had convinced Husserl that philosophy was a serious discipline that could to be dealt with in the spirit of the strictest science, but Husserl admitted to having been disturbed, even tormented, by doubts about a Brentanian analysis of sets from the very beginning. He finally concluded that Brentano's methods left him "in the lurch," that "once one had passed from the psychological connections of thinking, to the logical unity of the thought-content (the unity of theory) no true continuity and unity could be established" (Husserl 1970, 42; 1975, 20, 34–35; 1981, 343–45; Hill 1998).

Husserl's search for solutions finally led him to espouse idealistic metaphysical views that Brentano, bound as he was to the naturalistic tradition, considered odious. Husserl began to accord idealist systems the highest value, to see them as shedding light on totally new, radical dimensions of philosophical problems. The ultimate and highest goals of philosophy, he came to believe, are opened up only when the philosophical method that those particular systems call for is clarified and developed (Husserl 1981, 345). Every possible effort had been made, he came to state unequivocally of his *Logical Investigations*, "to dispose the reader to the recognition of this ideal sphere of being and knowledge . . . to side with 'the ideal in this truly Platonistic sense,' 'to declare oneself for idealism' with the author" (Husserl 1975, 20).

"The empirical sciences—natural sciences," Husserl endeavored to explain to Brentano in 1905, "are sciences of 'matters of fact.' . . . Pure Mathematics, the whole sphere of the genuine Apriori in general, is free of all matter-of-fact suppositions. . . . We stand not within the realm of nature, but within that of Ideas, not within the realm of empirical . . . generalities, but within that of the ideal, apodictic, general system of laws, not within the realm of causality, but within that of rationality. . . . Pure logical, mathematical laws are laws of essence. . . . " In so writing, however, Husserl strove to make it understood that he was "far from any mystico-metaphysical exploitation of 'Ideas,' ideal possibilities and such" of the kind Brentano so despised (Husserl 1994a, 37, 39; Hill 1998).

The sciences are in need of metaphysical foundations, Husserl would teach students. But he strove to make it perfectly clear to them that by that he "meant anything but a dialectical spinning of the concrete results of these sciences out of some abstract conceptual mysticism." Rather, he explained, he had in mind something "much more modest and fruitful, a level-headed clarification and testing of those general presuppositions which the factual sciences make about actual being, and, in more far-reaching scientific work and the recuperation of the most mature, recent knowledge of real being, of its elemental principles, forms, and laws that the present state of the individual sciences permits" (Husserl 2001a, 5).

HUSSERL ON METAPHYSICS, EMPIRICISM, AND THE NATURAL SCIENCES

Husserl saw the metaphysical needs of his time going unmet and gave this as an explanation as to why spiritism and the occult were thriving and superstition of every kind was spreading. As he saw it, metaphysics had come to be seen as a relic of scientifically backward times, on a par with alchemy and astrology. He saw the fight against metaphysics and most of the chance contemptuous remarks against it as being directed at a kind of a hobgoblin (*eine Art Popanz*) that people had concocted (Husserl 2001b, 232).

Husserl considered the overriding role and authoritative influence that the natural sciences had acquired in the lives of educated people in his times to be especially to blame for the prevailing contempt for metaphysics and its transformation into a hobgoblin. As he saw it, the natural sciences had taken abundant revenge for the injustice that they had had to suffer from the pseudo-scientific natural philosophy of the Romantics, but in speaking of metaphysics, natural scientists were still thinking of a kind of philosophizing that was up to the old tricks of the Hegelian school (Husserl 2001b, 232–33). Resorting to colorful language, Husserl explained to students that when,

> after the collapse of idealistic philosophy in the middle of the nineteenth century, the great awkward lull set in, when the philosophical race of Titans of Romanticism, who trained themselves to be able to storm the Mount Olympus of philosophy with their dialectical tricks, were flung down into the dark Tartarus of dissension and unclarity, and uneasy [*katzenjämmerliche*] disenchantment, even disillusionment, followed the earlier exuberance, then sounded ever louder the call back to Kant, the great theorist of knowledge, who had set limits on the presumptuousness of an uncritical metaphysics and established critique of knowledge as the true foundations for philosophy. (Husserl 2001b, 229)

Husserl was particularly concerned about the extent to which the hard questions about the objectivity of knowledge raised in the wake of Kant's work could determine one's entire conception of being in the world. The pressing problems of metaphysics, pressing too from the standpoint of the most exact scientific thinking, which in no way coincided with what Kant had in mind in his philosophical context, were no longer being distinguished from problems of the theory of knowledge. Since the collapse of idealistic philosophy, the rise of Romanticism, with its extravagant promises and flaunting of the requirements of rigorous science, and the revival of Kantianism, for which metaphysics as an a priori science of concepts was impossible, the term "metaphysics" had taken on ominous overtones, and people preferred to avoid using it (Husserl 2001b, 9, 232; Husserl 2001c, 13).

Husserl, however, believed that science needed metaphysical foundations, that above and beyond the relative sciences of Being, there had to be a definitive science of Being to explore what had to be considered real in the final and ultimate sense. He called for a science of metaphysics to study problems lying beyond empirical investigation, to engage in this exploration of what is *realiter* in the ultimate and absolute sense, and so provide ultimate and deepest knowledge of reality. He believed that such a science of metaphysics was possible and justifiable, and that human beings were ultimately capable of attaining knowledge of reality (Husserl 2001b, 232, 233, 252; Husserl 2008, §§20, 21).

Husserl defined metaphysics as the science of absolute being, in contrast to the individual sciences, which he saw as merely sciences of being in the relative, provisional sense sufficient for practical orientation in the phenomenal world and for the practical mastery of nature (Husserl 2001c, 12–13). He proposed to have metaphysics understood in a broad sense as radical ontology, as the radical science of Being, the science of Being in the absolute sense, instead of the science of being in the empirical sense, which we think we know so well, but which upon closer inspection at times turns out to be deceptive and an illusion (Husserl 2008, §20).

In certain respects, Husserl pointed out, each empirical science is a science of what is real. It deals with real things—with their real becoming, their real relations, and so on.

Each such science is, then, in its own way, an ontology. And since each empirical science explores a special sphere of real Being, the whole of empirical science appears to exploit the sum total of reality and to satisfy all epistemological interests regarding reality in a manner commensurate to one of the states of development of these sciences (Husserl 2008, §20).

It is certain, though, he argued, that knowledge of the world of the natural sciences, even the most highly developed ones, is not definitive knowledge of reality. Through the natural sciences is attained a highly worthwhile goal, namely, the practical mastery of nature: a far-reaching orienting of empirical reality, the possibility of formulating laws by which we exactly foresee and foretell the course of empirical processes and redirect the course of those processes. But, Husserl stressed, with the natural sciences we are not yet in possession of definitive knowledge, of ultimate, conclusive knowledge of the essence of nature. And advances made in the natural sciences alter nothing in this respect. One undoubtedly arrives at worthwhile results, but the lack of critical insight into the meaning of the fundamental concepts and fundamental principles makes it impossible to be clear about what is thereby ultimately achieved and consequently about the sense in which one may claim to take the results as expressions of ultimate Being (Husserl 2008, §20).

Wherever it is a question of reality, in life and in all empirical sciences, he explained, we apply certain concepts—such as thing, real property, real relation, state, process, coming into being and passing away, cause and effect, and space and time—that seem to belong necessarily to the idea of a reality. Whether or not all these concepts are actually intrinsic to the idea of reality, there surely are such concepts, the basic categories, in which what is real as such is to be understood in terms of its essence. Thus, investigations must be possible that simply reflect everything without which reality in general cannot be conceived. For Husserl, this was where the idea of a metaphysical a priori ontology came in (Husserl 2008, §21).

It is certain, Husserl considered, that a most universal concept of what is real in general, of the particularities grounded in the essence of what is real, can and must be delineated. Concepts such as that of an individual real thing, like Being for itself, or thing in the broadest sense, real property in the broadest sense, real relation, time, cause, and effect, are surely necessary thoughts concerning possible reality and require a study of the analysis of essence and of essential laws. There must therefore be, he concluded, a science of real Being as such in the most universal universality. This a priori metaphysics "*would be the necessary foundation for empirically based metaphysics*, which not only seeks to know what lies in the idea of reality in general, but seeks to know what is then actually actual, first of all universally as an inquiry into the general, but simply actual determinations (elements, properties, laws) of actual reality, and then <seeks> to determine what is definitively real in a particular way in the actual

sphere of Being <in order> to be able to understand definitively what is *realiter* there" (Husserl 2008, §21).

As Husserl saw it, such a science of metaphysics is so necessary for science that even natural scientists cannot do without it (Husserl 2001b, 233). The empirical sciences are not, he pointed out, creations of a purely theoretical mind; they are not based on absolutely scrupulously lain foundations in accordance with a rigorous logical method. They are subject to principles that govern thinking and research in the natural sciences, that make natural science in general possible, and that consequently cannot be searched for again by thinking and research in the natural sciences. Even the most highly developed and most exact natural sciences also uncritically use concepts and presuppositions originating in a prescientific understanding of the world (Husserl 2008, §20). As soon as they begin reflecting on the principles of their science, he considered, they fall into metaphysics, though they most certainly do not want to call it by that forbidden name (Husserl 2001b, 233).

HUSSERL ON METAPHYSICS AND LOGIC

Husserl may have been turned in the direction of metaphysical idealism by Cantor's experiments in the abstract realm of ideal mathematical objects, but more likely than not Cantor's excesses came as a shock to Brentano's disciple. Be that as it may, it was Hermann Lotze's interpretation of Plato's doctrine of Ideas, Husserl always maintained, that turned him away from empirical psychology and gave him the idea "to transfer all of the mathematical and a major part of the traditionally logical world into the realm of the ideal." His own concepts of Ideal significations and Ideal contents of presentations and judgments, Husserl stressed, originally came from Lotze, who was already writing about truths-in-themselves (Husserl 1975, 36; Husserl 1994b, 201; Lotze 1980, ch. II).

Husserl also gave Lotze credit for the theory that pure arithmetic was basically no more than a branch of logic that had undergone independent development and had developed very early through independent treatment (e.g., Husserl 2001a, 241; Husserl 2001c, 19, 249; Husserl 2008, §15). Husserl entreated his students not to be "scared" ("Ich bitte Sie nicht zu erschrecken!") by that thought (Husserl 2001c, 34) and "to accustom themselves to the initially strange view of Lotze that arithmetic is only a relatively independent, and from time immemorial, particularly highly developed piece of logic" (Husserl 2001a, 271–72).

Via Lotze, Husserl also came to understand what he had initially thought of as the "metaphysical abstrusities" and "naive," "curious conceptions" of Bernard Bolzano. In the light of Lotze's ideas, Bolzano's theory that propositions were objects that nonetheless had no existence now seemed quite intelligible to Husserl, who "with one stroke"

realized that Bolzano had not hypostatized presentations and propositions in themselves, for they could be seen as enjoying the ideal existence or validity characteristic of objects that are universals and, therefore, that kind of being that is established in the existence proofs of mathematics. Husserl saw that what he had thought of as "mythical entities, suspended between being and non-being," was actually

> to be understood as what is designated in ordinary discourse—which always objectifies the Ideal—as the "sense" [*Sinn*] of a statement. It is that which is explained as one and the same where, for example, different persons are said to have asserted the same thing. Or, again, it is what, in science, is simply called a theorem, e.g., the theorem about the sum of the angles in a triangle, which no one would think of taking to be someone's lived experience of judging. And it further became clear . . . that this identical sense could be nothing other than the universal, the species, which belongs to a certain *Moment* present in all actual assertions with the same sense, and which makes possible the identification just mentioned, even where the descriptive content of the individual experiences [*Erlebnisse*] of asserting varies considerably in other respects. (Husserl 1994b, 201)

Husserl now saw the parts of Bolzano's *Wissenschaftslehre* on presentations and propositions in themselves as being an initial attempt to provide a unified presentation of the domain of pure ideal doctrines and as already providing a complete plan of a pure logic (Husserl 1994b, 201–2; Husserl 1975, 36–38, 46–49; Husserl 2003b, 241). Hidden in that book was something that Husserl now saw as "one of the most momentous logical insights": that the "core content of any normative and practical logic consists in propositions that do *not* deal with acts of thought, but rather with those Ideas instanced in certain of their Moments" (Husserl 1994b, 209), a key thesis of Lotze (Lotze 1980, ch. II).

In his logic courses, Husserl would "reiterate and emphatically stress" that the ideal entities so unpalatable to traditional logic, and to empiricistic logic especially, and so consistently ignored by his contemporaries were not artificial inventions but were given beforehand by the meaning of the universal discourse of propositions and truths indispensable in all the sciences. That indubitable fact, he emphasized, had to be the starting point of all logic. No more is to be meant by this ideality, he maintained, than that it is a matter of a kind of possible objects of knowledge, of objects whose particular characteristics can, and in scientific investigation must, be determined, while they are just not objects in the sense of real objects (Husserl 2003b, 45, 47).

The continual talk of propositions, of true and false, Husserl taught, never at any time means what is reproduced in repeated stating, understanding, believing, or seeing, but rather something identical and atemporal in contrast to it (Husserl 2003b, 45). Science, he maintained, was a system of ideal meanings that unite into a meaning

unit. The theory of gravitation, the system of analytic mechanics, the mechanical theory of heat, and the theory of metric or projective geometry were all systematic units composed of ideal material, out of what we called meanings. And located in this ideal material were truth and falsehood, what science makes into an objective, supra-individual validity unit logically apprehending and exhausting a sphere of objectivity (Husserl 2008, §12).

Reality as objectivity comes under all forms and laws belonging to the essence of objectivity in general, and the theory of each real objectivity necessarily comes under the laws belonging to the theory in general of any objectivity whatsoever. Consequently, formal logic would be the science of this first a priori. On the other hand, the a priori belonging to the idea of reality as such would come under consideration. The body of truths relating to the essential categories of reality (thing, property, real relation between things, real whole, real part, cause and effect, real genus and species, etc.) is a foundation and prerequisite for any further knowledge of reality. When one takes into consideration the entire sphere of the sciences of reality, it is a necessary, common resource and "science theoretical" with respect to them (Husserl 2008, §23).

The realm of truth, Husserl sought to impress upon students, is no disorderly hodgepodge. Truths are connected in systematic ways and are governed by consistent laws and theories, and so the inquiry into truth and its exposition must be systematic. The systematic representation of knowledge must to a certain degree reflect the systematic representation grounded in the things themselves. All invention and discovery involve formal patterns, without which there is no testing of given propositions and proofs, no methodical construction of new proofs, no methodical building of theories and whole systems. No blind omnipotent power has heaped together some pile of propositions P, Q, and R, strung them together with a proposition S, and then organized the human mind in such a way that the knowledge of the truth of P unfailingly, or in certain normal circumstances, must entail knowledge of S. Not blind chance, but the reason and order of governing laws reigns in argumentation (Husserl 2001a, 9, 13, 16–17).

Real things have their logical form insofar as they become the objects of statements formed in one way or another, and we can reflect upon what is attributable to objects in general in virtue of this form. But this is basically of interest only because we aspire to knowledge of reality, and knowledge of form is naturally of extraordinary methodological significance for knowledge of things. Forms are precisely forms of actual and possible things, and without them, nothing becomes a thing knowable to us. Accordingly, through logic one could comprehend everything a priori belonging to the possibility of knowledge of reality in general, or if one likes, by logic understand theory of science, but not theory of science in general, rather, theory of reality science in general. Then logic would embrace a dual a priori, one of pure form and one of content determined by form (Husserl 2008, §23).

SETS, *MANNIGFALTIGKEITEN*, AND ANALYSES OF ESSENCE

Husserl's earliest attempts to obtain clarity regarding the meaning of the concepts of the theory of sets and cardinal number left him tormented by questions about the incredibly strange realms of actual consciousness and of pure logic. Disillusioned with the theories of those to whom he owed most of his intellectual training, he came to believe that what had been given as analyses of immanent consciousness had to be seen as pure a priori analysis of essence, and this opened up the immense fields of the givens of consciousness as fields for "ontological investigations" (Husserl 1970, 41–43; Husserl 1975, 17, 42; Husserl 1994b, 490–91).

For Husserl, concepts and principles are purely logical abstractions from all subject matter. Owing to this abstraction—namely, owing to their fully indeterminate universality with respect to content—they relate to every possible field of knowledge, to every possible science, as concerns their theoretical content. As examples of concepts having such most universal significance, he gave object, characteristic, relation, whole, part, multiplicity, unit, cardinal number, order, universal, and particular (Husserl 2008, §22).

He defined pure logic as formal, analytic logic, or the science of what is analytically knowable in general—a category into which we find him at various times putting all of the purely analytical theories of mathematics, algebra, arithmetic, number theory, the pure theory of cardinal numbers, the pure theory of ordinal numbers, set theory, Cantorian sets, the theory of manifolds in the broadest sense, the pure mathematical theory of probability, traditional syllogistics, and the entire area of formal theories. He defended analytic logic against charges of being a "useless" spinning out of "sterile" formalizations, charges that he considered revelatory of considerable philosophical deficiency, a lack of understanding of crucial basic issues, and a disgraceful ignorance of the essence of modern mathematics and of the extraordinary significance that the scientifically rigorous, theoretical exploration of forms of pure deduction had acquired for the perfection and most rigorous grounding of the systems of pure mathematics in his day (Husserl 2003b, 39, 244, 263–65; Husserl 1975, 28; Husserl 1994b, 250, 490–91).

Whereas all of natural science is an a posteriori discipline grounded in experience with its actual occurrences, the world of the mathematical and purely logical is a world of ideal objects, a world of concepts, Husserl argued. Pure mathematics, pure arithmetic, and pure logic are a priori disciplines entirely grounded in conceptual essentialities. There, all truth is nothing other than the analysis of essences or concepts. With them, we are not in psychology, not in any sphere of empiricism and probability. The number series is a world of its own kind of ideal, not real, objects. The number 2 is not an object of perception and experience. Two apples come into being and pass away, have a place and time, but if they are eaten up, the number 2 is not eaten up. The number series of pure arithmetic has not suddenly then acquired a hole, as if we were to have to count 1, 3, 4 (Husserl 2008, §13c).

Pure arithmetic, Husserl said, pursuing his reasoning along the same lines, explores what is grounded in the essence of number. It has nothing at all to do with nature. It is not concerned with things, physical things, souls, or real occurrences of a physical or mental nature; it does not acquire its universal propositions by perception and empirical generalizations on the basis of the perception and the substantiation of the resulting individual judgments. One does not state a + 1 = 1 + a as a hypothesis that has to be established as true in further experience or else inductively in keeping with the methods of the natural sciences. Rather, mathematicians start with a + 1 = 1 + a as something unconditionally valid and certain, for it is obviously part of the meaning of the term "cardinal number" that each thing can be increased by one. To say that a cardinal number cannot be increased amounts to not knowing what one is talking about. It amounts to being in conflict with the meaning of "cardinal number" (Husserl 2008, §13c).

For Husserl, arithmetical laws, genuine axioms, develop directly in the self-evidence of certainty. And this certainty and self-evidence carry over to all theses in deductive substantiation. All purely mathematical propositions, he reasoned, express something about the essence of what is mathematical, something about the meaning of what forms part of the same. Their denial is consequently an absurdity. In contrast, no proposition of the natural sciences, no proposition about real matters of fact, is substantiated as being certain by self-evidence. Its denial never means an absurdity, a contradiction in terms. In denying the law of gravity, the law of the parallelogram of forces, and the like, experimentation is cast to the wind, but this is not a contradiction in terms. Of two contradictory propositions, one is true and one false. That is generally to be looked upon as absolutely certain. Whoever denies this does not know what contradictory signifies, what true and false signify. One cannot deny this without casting the meaning of those words to the wind. The proposition is simply an "unfolding" of the intension of the "concepts." It is purely grounded in them (Husserl 2008, §13c).

Appointed to the University of Göttingen in 1901, Husserl was soon drawn into the discussions of the set-theoretical paradoxes in David Hilbert's circle of mathematicians (Peckhaus and Kahle 2000–2001; Husserl 1994b, 442; Rang and Thomas 1981). Unpublished notes on set theory available at the Husserl Archives (Husserl n.d.) show Husserl directly grappling with the questions raised by the set-theoretical paradoxes. In those notes, he recorded his ideas about just what the essence, the concept, of set entails. His reflections on sets and the set-theoretical paradoxes illustrate what he meant by analyses of essence.

Given his conviction that logical, mathematical laws are laws of essence, it is not surprising to find Husserl arguing over and over that the set-theoretical paradoxes must involve some violation of the essence of sets. Wherever mathematicians speak of sets, he maintained, if the concept is to be a mathematical one, they must have a set essence in view, and whatever sets may have as an essence, it is expressed with a relation that

belongs to the essence, i.e., the relation between sets themselves and elements of a set (Husserl n.d., 12b). It is part of the idea (*Idee*) of the set, he wrote, to be a unit, a whole comprising certain members as parts, but doing so in such a way that, vis-à-vis its members, it is something new that is first formed by them. All mathematico-logical operations performable with sets, he considered, turn on the idea that sets can be looked upon as kinds of wholes, as new units, formations that are something new vis-à-vis their original members, so that out of these formations new units can then again be formed. The unity of a system is something new vis-à-vis the elements systematized. It would be a contradiction in terms for the system's oneness itself to be able to figure among the elements of the same system, that is, among the elements upon which the system itself is based. But system units can themselves be systematized and then ground higher forms of system. However, they then bring elements into a new system whole (Husserl n.d., 20b).

The paradoxes, he declared, only demonstrate that a general logic of sets in general, of totalities, is still lacking. He stressed that in his logic courses he had constantly and from the beginning said that totality and set should not be identified and that this identification must be partly responsible for the paradoxes of set theory. He expressed his conviction there that we do not yet by any means have the real and genuine concept of set that logic needs (Husserl n.d., 43a, 69a).

"It belongs essentially to the concept of set that (without contradiction) no set can contain itself as an element," Husserl repeated over and over (n.d., 24a). An essence relation, that is, the relation between sets themselves and elements of a set, makes it impossible for the members of the relation to be identical. Hence a set that contains itself as an element would be a contradiction in terms (*Widersinnigkeit*) (Husserl n.d., 12b). A whole cannot be its own part. Just as it is contradictory for a whole to be its own part at the same time, so it is contradictory for a set to be its own member (Husserl n.d., 20b). To the objection that there is no set that contains itself as an element, he maintained that one need merely respond that that is a contradiction in terms (*Widersinnigkeit*) (Husserl n.d., 17a). If one is clear and distinct with respect to meaning, Husserl stated in his unpublished notes, one readily sees the contradiction in terms involved in the set-theoretical paradoxes. So the solution to the paradoxes would then lie in demonstrating the shift of meaning that makes it so that one is not immediately aware of the contradiction in terms and that once one perceives it, one cannot indicate wherein it lies (Husserl n.d., 12a).

Husserl's search for answers to questions raised during his time in Halle took him beyond the confines of the mathematical realm and toward the development of the science of deductive systems in general that he called his *Mannigfaltigkeitslehre*, theory of manifolds, which he considered to be the highest task of formal logic. His manifolds were theory forms, logical molds totally undetermined as to their content and not

bound to any possible concrete interpretation. His theory of manifolds was his project for limning the true and ultimate structure of reality, a technique for engaging in pure a priori analyses of essence through an austere scheme of axiomatization that knows no acts, subjects, or empirical persons or objects belonging to actual reality. It was a matter of theorizing about possible fields of knowledge conceived of in a general, undetermined way, simply determined by the fact that the objects stand in certain relations that are themselves subject to certain fundamental laws of such-and-such determined form, are exclusively determined by the form of the interconnections assigned to them that are themselves just as little determined in terms of content as are the objects (Husserl 1975, 35; Husserl 1970, 41 and the *Prolegomena*, §§69–70; Husserl 2008, §§18–19; Husserl 1996, ch. 11; Hill and Rosado Haddock 2000, chs. 9, 10; Hill 2002).

In his unpublished notes on set theory, Husserl's choice of manifolds turns on his convictions that objects stand in relations with respect to certain properties and that among these relations are those belonging to the essence (Husserl n.d., 10a; also 35a, 40b, 43b, 48, 53a, 62a-b, 63a). In notes dating from the early 1890s, we find him already pointing out that by *Mannigfaltigkeit* Cantor merely meant an aggregate of any elements combined into a whole and that Cantor's concept does not correspond to Riemann's and other related ones in the theory of geometry, for which, Husserl stresses, a *Mannigfaltigkeit* is an aggregate of elements that are not just combined into a whole but are ordered and continuously interdependent. He defines order as "a concatenation that has the special property that each member possesses an unambiguous position, in the narrow sense of the word, in relation to any arbitrary one, i.e., can therefore be unequivocally characterized by the mere form of the direct or indirect connection with the last one" (Husserl 1983, 93, 95–96). Manifolds, he emphasized, are not mere aggregates of elements without relations. It is precisely the relations that are essential and distinguish them from mere aggregates (Husserl 1983, 410).

Husserl's notes show him suggesting a reform of the mathematical theory of manifolds by consciously transforming it into a transcendental theory of manifolds that consciously captures the formal essence of a genuine, constructible totality. This new theory would consciously analyze what belongs to the essence of a concept defining a totality, what belongs to the essence of an axiom and axiom system which, as such, establishes the univocity and construction, and only establishes the meaning of what is constructed. The theory would then formally weigh the conditions of the possibility of such a totality and by this means derive the system of possible totality forms, or manifold forms (Husserl n.d., 38).

CONCLUSION

Investigations at the intersection of Cantor's *Mannigfaltigkeiten* and twentieth-century attitudes toward metaphysics and logic raise many unanswered questions, many more than philosophers seem to realize, about the ultimate structure of reality. Much remains

to be divulged and analyzed about what the logical experimentation carried out at that intersection over the past hundred years has to tell us about what Bertrand Russell once colorfully called the ultimate furniture of the universe. In particular, the full, long story of set theory's role in shaping modern logic and in redrawing the boundaries between metaphysics and logic in both the analytical and the phenomenological traditions is yet to be told and its full implications to be drawn.

Ironically, a strong anti-metaphysical animus thoroughly incompatible with the intentions of the creator of set theory was one of the most striking features of the new logic that grew out of his pioneering work. That antipathy toward metaphysics did not just require eschewing nineteenth-century metaphysical idealism in its various guises but extended to include any vestige of it. So it happened that in the campaign to rid philosophy of metaphysics once and for all, metaphysical considerations of very different kinds were confused that never should have been. Spurned and cast out too were essences, universals, ideas, senses, meanings, concepts, attributes, essential properties, modalities, propositions, intensions,. . . anything hinting of the a priori—and, above all, anything that failed to obey the rules of the strictly "extensional" Eden into which the logical establishment strove to lock logical reasoning during much of the twentieth century.

The emblematic figure in this was Willard Quine, who fought to defend his sterile realm of strong extensional calculi at all costs. Principal planks of his philosophical program included exposing and bewailing any soupçon of connivance with metaphysics and warning of the temptations and dangers of modal and intensional logics. He admonished philosophers to remain within the confines of his logical Eden, to flee creatures of darkness, and to stay away from what he called curiously idealistic ontologies that repudiated material objects. He conjured up nightmare visions of the ontological crisis that would ensue were logicians to disobey his strictures and begin a retreat back into what he called "the metaphysical jungle of Aristotelian essentialism" (e.g., Quine 1947, 43, 47; Quine 1960; Quine 1976, 159–76; 177–84; Hill 1997, ch. 11).

Intense anti-metaphysical sentiment fostered an uncritical climate that helped unfounded anti-metaphysical prejudices to hold sway for decades. It was long professionally necessary to philosophize within the power of these prejudices, and few dared to contradict what seemed false in them. Besides, it was convenient to adopt a shallow approach that made it easy to dismiss annoying, embarrassing, and disturbing questions about blunt, crude, blind features of a modern anti-metaphysical logic by charging questioners with harking back to a loathsome metaphysics. It was realized that the logic contained many unsolved difficulties, but Quine and his followers found it desirable for achieving their ends, elegant, and aesthetically pleasing. So they sewed fig leaves together, so to speak, and made coverings for themselves. They thought of themselves as sailors trying to fix their craft out at sea and unable to bring it into dock,

dismantle it, and use the best bits to build it anew, or so suggests Quine's well-known epigram to his classic work *Word and Object*.

Fortunately, a handful of philosophers braved the strictures and adopted a bolder approach toward limning the true and ultimate structure of reality. They set out to increase the depth, versatility, and utility of the standard languages and to create languages capable of investigating epistemic and deontic contexts and of analyzing the many non-extensional statements that figure significantly in the empirical sciences, law, medicine, ethics, politics, and ordinary philosophy but which were being sloughed off by the philosophical establishment because they complicated matters by not conforming to the rigid standards set for admission into a logical world as stark as Quine's.

For example, finding extensional functional calculi "inadequate for the dissection of most ordinary types of empirical statement," Ruth Barcan Marcus insisted that "modal logic was worthy of defense, for it is useful in connection with many interesting and important questions, such as the analysis of causation, entailment, obligation, and belief statements, to name only a few" (Marcus 1993, 5). Dagfinn Føllesdal once pointed out that if Quine's judgment were to prove conclusive, this would have "disastrous consequences," among which would be that "any attempt to build up adequate theories of causation, counterfactuals, probability, preference, knowledge, belief, action, duty, responsibility, rightness, goodness, etc. must be given up" (Føllesdal 1969, 179, 184). Far too prolific to do him any justice has been Jaakko Hintikka, whose recent work on independence-friendly logic, to take just one example of his contributions to the field, represents another significant scheme of his for remedying problems that were written right into the foundations of the ineffectual logic that so many desired so ardently to have and to hold on to (e.g., Hintikka 2002, 2004a, 2004b).

The work of such logicians proved to be particularly effective in exposing logical form and displaying the inner workings and shortcomings of strong extensional systems. So reasons for not shoving reasoning into an extensional mold mounted as objections that had muddled the issues for decades proved untenable and the Quinean hegemony was undermined. Metaphysical considerations were increasingly invoked and a more hospitable environment was created for the logical phenomena that had been vilified as metaphysical abstrusities, curious conceptions, unintelligible mythical entities suspended between being and non-being. It was shown that they were not just scientifically permissible but germane, even vital, to knowledge and science and that it was most wrongheaded and impetuous to try to cleanse reasoning of them. What had been shunned and excoriated was increasingly shown to be just what is needed to provide the unity and continuity necessary to reasoning in philosophy and in science in general . . . just what is needed to clear up reasoning, help remove ambiguity and imprecision, draw fine distinctions both germane and indispensable to many scientific undertakings . . . the very thing needed to bring clarity, simplicity, precision, and even

elegance to reasoning. Not just ethics and religion depend on the logico-metaphysical considerations in question, but knowledge and science in all its forms do (Hill 1997).

Above, I told the story of how, after struggling with doubts about his early empirico-naturalistic approach to logic, sets, and the foundations of arithmetic, Husserl came to realize that what he had once thought of as metaphysical abstrusities could be conceptually sundered from the odious, pernicious, invidious forms of metaphysics that he had wished to avoid; how he came to embrace the a priori, to espouse an idealistic ontology, to philosophize in a metaphysical jungle of essentialism, to reason with intensions; in short, how he came to adopt an metaphysical and logical perspective fundamentally antithetical to the one that was later imposed by the analytic establishment.

Husserl's conclusions accord with the late twentieth-century findings of philosophers such as Ruth Barcan Marcus, who scandalized Quine and Quineans by declaring that essentialist talk was commonplace in and out of philosophy, that it was frequently unproblematic, and that it was surely dubious whether it could be replaced by nonessentialist, less "problematic" discourse (Marcus 1993, 55). For example, she dared to maintain that

> a sorting of attributes (or properties) as essential or inessential to an object or objects is not wholly a fabrication of metaphysicians. The distinction is frequently *used* by philosophers and nonphilosophers alike without untoward perplexity. Given their vocation, philosophers have also elaborated such use in prolix ways. Accordingly, to proclaim that any such classification of properties is "senseless" and "indefensible," and leads into a "metaphysical jungle of Aristotelian essentialism" is impetuous. It supposes that cases of use that appear coherent can be shown not to be so or, alternatively, that there is an analysis that dispels the distinction and does not rely on equally odious notions. (Marcus 1993, 54)

Being a human being or being gold or is not accidental, she pointed out:

> No metaphysical mysteries. Such essences are dispositional properties of a very special kind: if an object had such a property and ceased to have it, it would have ceased to exist or it would have changed into something else. If by bombardment a sample of gold was transmuted into lead, its structure would have been so altered and the causal connections between its transient properties that previously obtained would so have changed, that we would not reidentify it as the same thing. (Marcus 1993, 69)

So, by the end of the twentieth century, the logical road most taken ended up leading some of its most lucid philosophical minds to confront metaphysical issues and imperatives, and it will most likely continue to do so. However, in retrospect, logic being

what it is, it is logical that that would transpire. For if metaphysics is to be understood as *metaphysica generalis*, ontology, or the science of the most general categories of being understood not only as categories of what there is, but also as logical categories, we are not talking about the idea that logical or grammatical categories are mirrored in the ways *in which we structure being*, but about the idea that logical or grammatical categories mirror the ways *in which being itself is structured*. In both cases, metaphysics would elucidate certain universally applicable concepts, but only if logical or grammatical categories are taken as mirroring the ways being itself is structured are we talking about metaphysics as first philosophy. In the other case, we are ultimately talking about some form of psychology or some derivative of Kantian transcendental idealism.

Cantor, Frege, and Russell all recognized that there was something about the structure of being itself that could not be manipulated at will, that logic must in some sense mirror the ways in which being is structured or it would turn out illogical. Cantor said that he had been logically compelled to introduce new, strange number classes almost against his will and that he did not see how he might proceed further with set theory and function theory without them. When asked about the causes of the paradoxes of set theory, Frege answered that the essence of the procedure leading into a thicket of contradictions consisted in regarding the objects falling under F as a whole, as an object designated by the name "set of F's," "extension of F," or "class of F's." He alluded to having been in a certain way forced to introduce extensions almost against his will because he saw no other alternative. In 1911, in a text that Husserl copied directly into his notes on set theory, Russell wrote of how logic and mathematics forced one to admit that there is a world of universals and truths that do not bear directly on any particular existence. He affirmed that it was an ultimate fact that we have immediate knowledge of propositions about universals, that there was a priori and universal knowledge, and that all knowledge obtained by reasoning needed a priori, universal logical principles (Russell 1911). This sense that there is something about reality that resists manipulation is surely much of what is behind the new rehabilitation of metaphysical ideas, which has never been a matter of a return to the stifling atmosphere of nineteenth-century idealism or the excesses of irrationality that engendered such determination to put an end to metaphysics once and for all.

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11

TO BE AND/OR NOT TO BE
THE OBJECTS OF MEINONG AND HUSSERL

Peter Simons

For David Bell

1. INTENTIONAL INEXISTENCE

In his *Psychologie vom empirischen Standpunkt* of 1874 Franz Brentano set forth a number of propositions concerning psychology as a science. The first was that psychology is an autonomous discipline, not reducible to physiology or any other applied physical science, as had been widely held in the nineteenth century and as has been widely held since. The second was that psychology differs from the physical sciences not by its method, since, according to Brentano, all sciences, including philosophy, and excepting only the formal disciplines of logic and mathematics, share the same, empirical method.[1] If psychology was to be a different science from any of the physical sciences, including physiology, then it had to differ in subject matter. Brentano considered a number of possibilities for distinguishing the subject matter of psychology from that of the physical sciences. One is that the physical sciences study items in space and time, whereas the items studied by psychology are temporal but not spatial. This difference was commonplace in philosophy and went back to Descartes and beyond. Brentano accepted it, but he disliked the negative characterization of mental items as non-spatial. Another, not unrelated distinction is that psychology has to do with an immaterial soul, which is something missing from and untreatable by the physical sciences. Again, Brentano did not disagree with the point, but to claim in the last third of the nineteenth century that psychology was about souls while physical sciences were not was to court ridicule and condemn the fledgling science of psychology to the status of metaphysical speculation. At that time, influenced by the positivistic philosophy of August Comte,

[1] This was the content of Brentano's famous fourth habilitation thesis of 1866: "Vera philosophiae methodus nulla alia nisi scientiae naturalis est," a thesis as controversial now as it was then—and as true. Brentano 1968, 137 ff.

Brentano was not prepared to stake a claim for the autonomy of psychology on such a controversial and apparently retrograde thesis. A modern scientific psychology ought to be empirical rather than metaphysical. Hence Brentano looked for a distinguishing characteristic for the subject matter of psychology that was neither metaphysically controversial nor negative. He believed he had found it in a characteristic of the mental that had been first highlighted by Aristotle in *De anima*'s account of perception, then exploited by Arabic and Christian Aristotelians, including Augustine and Aquinas, and eventually buried by the later theory and terminology of ideas introduced by Descartes and Locke. This was what Brentano called intentional or mental inexistence. Every mental item is *of* something; this something has its existence *in* the mental item. When we see, we see something; when we believe, we believe something; when we like, we like something. Every mental item has its something; it is *of* this something or is *about* this something. Such of-ness or about-ness is characteristic only of the mental; there is nothing like it in the physical world. A rock is not a rock about anything. A noise is just a noise; it may have a cause and a source, but the cause or source is not something it is about. The something a mental item has is intended or targeted by the mental item. This is then intentional or mental inexistence, and here are Brentano's own famous words:

> Every mental phenomenon is characterized by what the scholastics of the Middle Ages called the intentional (or mental) *in-existence* of an object and what we might call, though not wholly unambiguously, the reference to a content, a *direction towards an object* (which is not to be understood here as meaning a thing), or an immanent objectivity. Each mental phenomenon includes something as object within itself, although they do not all do so in the same way. In presentation something is presented, in judgment something is affirmed or denied, in love loved, in hate hated, in desire desired, and so on. This intentional in-existence is characteristic exclusively of mental phenomena. No physical phenomenon exhibits anything like it. We can, therefore, define mental phenomena by saying that they are those phenomena which contain an object intentionally within themselves.[2]

Despite the ambiguities and difficulties in this passage, about which much ink has been spilled, there is something inescapably, indeed trivially correct about it. Someone who sees, sees something. When asked "What can you see?" I may sometimes correctly answer, "Nothing." But this answer can be correct in one of two ways. In the first, I may have lost my sight. After an accident or an illness I may literally see nothing. In that case I am not seeing at all, and Brentano is vindicated. In the other sort of case, the

[2] Brentano 1973, 88.

answer is contextually correct because I may be straining or striving to see a certain thing or kind of thing, and failing to do so. The prophet Elijah sends a servant to look out to sea for rain, and six times the servant returns saying he saw nothing; only the seventh time does he see a small cloud. But of course the first six times the servant did not see nothing: he saw a clear sky without clouds. When we say we see nothing, often we simply report not seeing something looked for, whether a sail on the horizon, a newt in a pond, or whatever, even though we saw other things. Brentano is again corroborated. What then of someone who dreams, and sees a goat with purple horns drinking a beer and reading Sartre? We are torn as to what is correct. In one sense the dreamer sees something; in another she does not. This indecision turns out to be at the very basis of the difference between Meinong and Husserl, as we shall see.

2. CONTENT OR OBJECT?

In his 1874 work, Brentano is not very clear about the nature and status of the object or content of consciousness. This is in part because Brentano was initially under the influence of Comte and phenomenalism. His classification of the objects of science is a classification not, or not obviously, of extra-mental objects, but rather of mental phenomena. It is significant that as examples of physical phenomena he gives colors, sounds, and a seen landscape. These have no internal structure or complexity: they are simply of this or that kind. A mental phenomenon, on the other hand, is internally structured: it consists of an act, which gives us its kind (seeing, hearing, remembering, judging, disliking or whatever), and a content/object, which is what is seen, heard, remembered, judged, or disliked. Although occasional passages in the book and in other writings around this date suggest that the content might in fact be construable as extra-mental, the dominant impression and best interpretation is that the content/object is internal or immanent to the mental phenomenon. The containment can be iterated: I can remember seeing Mary, for instance, or be surprised by my remembering seeing her, and so on.

The idea that the object of thought is inherently part of the thought is reminiscent of Descartes's and Locke's way of ideas, and is extremely problematic and counterintuitive. If the tree I see is something in my mind, then how can you and I see the same tree? In 1874 Brentano was willing to say that extra-mental physical objects are at best conjectured and uncertain. Later he tended to a much more realistic position, but the path by which he progressed from immanentism to realism is largely unmapped and appears to be tortuous. At any rate, immanent objects were to be rejected by his most capable students, such as Meinong, Husserl, and Twardowski.

The first published sign of dissent from Brentano's line came in a logic textbook for Austrian secondary school students written by Alois Höfler with the help of Alexius

Meinong and published in 1890. Right at the beginning of this book,[3] Höfler and Meinong mention Brentano's intentionality thesis and diagnose its problem as consisting in an ambiguity in the term "object" (*Gegenstand*).[4] This can mean the external thing, as when you and I both see the same tree, or it can mean the internal mental content by virtue of which I have a tree-seeing (as distinct from a cockerel-hearing, madeleine-sniffing, or remembering-seeing-Mary) experience, which is mine alone and differs from yours principally but not solely in its bearer.

The decisive advance came with Kazimierz Twardowski's Vienna *Habilitationsschrift* of 1894, *Zur Lehre vom Inhalt und Gegenstand der Vorstellungen*. Twardowski insisted that in any idea (*Vorstellung*) we can and should always distinguish the content (*Inhalt*), which is mental and private to a thinker, from the object, which is typically (but not invariably) non-mental and public. Contents not only have very different properties from objects in most cases. Often a content exists in the mind of a thinker at times when the object does not, as when I recall my wedding. Sometimes the object does not exist at all, as when I think of the god Poseidon. Contents are generally very unlike their objects. For example, Austria's "iron mountain" (the Erzberg at Eisenerz) is extended, mountainous, located in Styria, and made almost wholly of iron ore, whereas my thought of the Erzberg is none of those things. Distinct contents may intend the same object. The contents [the city built on the site of the Roman Juvavum] and [the city where Mozart was born] both intend Salzburg.[5] Readers will be reminded of Frege's arguments for distinguishing *Sinn* from *Bedeutung*, transposed from a linguistic key into a mental one.

Twardowski's clear distinction is of pivotal significance in the development of the concept of intentionality, but it opens up a new question. If intentionality is (as most of those following Brentano agreed) the characteristic mark of the mental, does intentionality consist in an experience's having a content, or an object, or both? Since there cannot be an experience without there being some difference made to one's mental life, it appears that a content of some sort is indispensably necessary. But must there also be an object? Having rejected the identity of content and object, as well as the skeptical and anti-realist position that no idea has an object, we have two remaining positions:

1. There is sometimes an object and sometimes not.
2. There is always an object.

[3] Höfler 1890, 6.

[4] In the Brentanian tradition, "object" (*Gegenstand*) is invariably used as *summum genus*: everything thinkable is an object, not just things such as rocks and people. This contrasts with the more restrictive uses of Frege and Wittgenstein.

[5] I designate the content of ideas associated with phrases by placing those phrases in square brackets.

Bolzano had stated in his *Wissenschaftslehre* that there are ideas without objects.[6] He cites [nothing], [a round square], [green virtue], and [golden mountain] as examples of such ideas, the first three of necessity, the last contingently. Benno Kerry made much the same point.[7] Twardowski does not agree with Bolzano, and in section 5 of his work rejects the view that there are objectless ideas, which he declares to be a self-contradictory notion. Bolzano's example [nothing] he rejects as syncategorematic, which is correct, but the other examples he claims are plausible only because Bolzano, Kerry, Höfler, and others confuse the nonexistence of an object with its not being presented. A presented object always exists intentionally, even if it does not exist *realiter*. Despite his invocation of the authority of Descartes, who in the third *Meditation* wrote, "Nullae ideae nisi tanquam rerum esse possunt," Twardowski's argument is not strong at this point.[8] But it is on precisely this point that Meinong and Husserl differ on how to continue Brentano's account of intentionality and its objects.

3. MEINONG AND THE NONEXISTENT

Meinong, following Twardowski, takes Descartes's *tanquam* with categorical force: there are no ideas without objects. He accepts Twardowski's distinction between content and object, though unlike Twardowski he takes the content to be as real, mental, and particular as the idea itself, whereas Twardowski's content is more abstract. Like Twardowski, he accepts that there are objects that we think about but which, by chance or necessity, do not exist. For reasons of *Sprachgefühl*, Meinong uses the word "exist" (*existieren*) only for temporal existence; for ideal or abstract existence he uses the word "subsist" (*bestehen*), while for both together he uses "being" (*sein*). We shall follow Twardowski, who uses "exist" to cover both real and ideal beings. With that settled, we can state what Twardowski and Meinong agree on: some objects do not exist. When Meinong gets around to stating this fully, he does so at first as a coy paradox: "There are objects of which it holds that there are no such objects."[9] The paradox is dispelled by emptying the first, outer "there are" of any existential commitment, while retaining such commitment for the second, inner "there are." The maximum-range quantifiers "there are" and "all" range over all objects, existent and nonexistent alike.

Meinong's view that there are nonexistent objects is his most famous, indeed notorious doctrine. It has attracted much negative comment, some of it prejudiced and ill-informed. Several remarks may put the record a little straighter. First, *pace* Gilbert Ryle,

[6] Bolzano 1837, § 67.

[7] Kerry 1885–86.

[8] *Meditation* III, § 19: "There cannot be ideas which do not appear to represent things."

[9] Meinong 1971, 490.

Meinong's theory of nonexistent objects was not the result of his adopting a naive referential theory of meaning.[10] On the contrary, the theory of meaning, which was indeed referential until Meinong inserted an intermediate notion of sense or "auxiliary objects" in 1915,[11] is as it is because his theory of intentionality guarantees an object for any mental act that gives expression to the meaning of an expression.[12] Second, Meinong does not add to Twardowski's arguments for every act having both a content and an object, but simply takes them over, indeed in some cases with slight reservations and modifications. Considering how far-reaching the assumption of nonexistent objects was to be, this is somewhat surprising. One would expect Meinong to test such a bold hypothesis against stiff objections, but he does not. It is certain that Meinong discussed the doctrine of objects outside being with his Graz students Mally and Ameseder, since they discuss very similar issues in the 1904 Graz collected volume *Untersuchungen zur Gegenstandstheorie und Psychologie*, which opens with Meinong's programmatic essay "Über Gegenstandstheorie." Meinong indeed credits Mally with several of the crisper formulations of principle. So it is probable that the group solidarity and agreement rendered it psychologically unnecessary for Meinong to spend a lot of time arguing dialectically. Rather, his procedure, which is indeed similar to the hypothetic-deductive method in science, is to make a proposal and see what follows from it. Meinong is content to castigate what he calls the prejudice in favor of the real or actual (*wirklich*), but rejecting such a narrow physicalism is compatible with an acceptance of abstract objects and/or possible but non-actual objects, now a commonplace in modern analytic metaphysics. Third, the really revolutionary part of Meinong's doctrine is not the acceptance of objects that do not as a matter of fact exist, since anyone who takes ontologically seriously such possibilities or possible objects as the golden mountain or a meter-wide diamond is in effect doing the same. The novel part is the acceptance of impossible objects, that is, those that contain a material or formal inconsistency in their nature, such as the round square or green virtue. Meinong adopts Mally's principle of the independence of *Sosein* from *Sein*. What a thing is like is independent of whether it exists. The golden mountain is golden and mountainous, the round square is round as well as square, though neither exists, the former contingently, the latter necessarily.

It took the logical brilliance and general inquisitiveness of Bertrand Russell to confront Meinong properly for the first and perhaps last time with the consequences of his theoretical position. In their debate, Russell famously accused Meinong of propounding contradictions. Meinong, while agreeing that he was flouting the traditional laws of logic, which apply only to actual and possible things, rejected the charge of inconsistency,

[10] Ryle 1972.
[11] See Simons 1995a.
[12] See Morscher and Simons 2001.

and with Mally's help put together an interesting and plausible theory of non-standard properties, including existence and possibility, with which to evade Russell's ingenious logical traps. Unfortunately, the mercurial Russell had meanwhile lost patience with Meinong's rather ponderous response, and the debate was never properly concluded except in the mind of Russell, who went on to proclaim widely and influentially that Meinong accepted contradictions and lacked a robust sense of reality. The balance of the dispute was only redressed three generations later, when it became clear that Meinong's response was in fact rather good, and his theory no easier to entrap in contradictions than many others.[13]

In the meantime, in his last decade and a half Meinong pressed ahead, deflected but undeterred by Russell's criticisms, with the development and exploitation of the theory of objects. The troublesome inconsistent objects turned out to be less important than incomplete objects, typically consistent, which found multiple uses in the theories of knowledge, meaning, and probability. Meinong supplemented the objects of cognitive acts, "objecta" for nominal/presentational and "objectives" for sentential/propositional acts respectively, by special value-objects, "dignitatives" for the objects of emotions and feelings, "desideratives" for the objects of positive and negative desire or want. In so doing he laid foundations for deontic logic, as in his theory of incomplete objects he also laid foundations for many-valued logic, no mean feat for someone whose strength was psychology rather than logic.

Meinong remained a psychologist well beyond the time when his advanced visual impairment made it impractical for him personally to conduct experiments. His attention gradually and decisively shifted, however, from the description, analysis, and classification of mental activities to the description, analysis, and classification of the various objects of these activities. He retained a strong correlation between kinds of acts and kinds of objects. He was thus a faithful continuer of the path Brentano had blazed, but chose to lay greater stress on the objective side, and so advanced into an unorthodox but tightly constructed and rationally elaborated realist metaphysics and theory of objective value.

4. HUSSERL: IDEAS, OBJECTS, AND NOEMATA

Husserl came to philosophy from mathematics, and his first work, in the mid-1880s, used aspects of Brentano's then-ripening descriptive psychology to give an account of the nature and cognition of natural numbers. Despite its dedication to him, Brentano, who had encouraged Husserl to move from Vienna to Halle to study with Stumpf, did not find time to read the resulting *Philosophie der Arithmetik* of 1891. The work's

[13] I have written about this controversy in detail elsewhere: cf. Simons 1988, 2005.

psychologistic tendencies, though relatively mild by comparison with much else that was then prevalent, drew a sharply critical review from Frege, whom Husserl had had the temerity to criticize in his book—correctly, as it since turns out.[14] Husserl, who was already having second thoughts, dropped a projected second volume on rational and real numbers and spent the rest of the 1890s reviewing the work of contemporary logicians and thinking about how logic should be done non-psychologistically. Like Meinong, he read and was much influenced by Twardowski's 1894 *Inhalt und Gegenstand*; in that year he wrote a long reactive essay, "Intentionale Gegenstände," which contained a number of points later aired in *Logical Investigations*, and toward the end of 1896 he wrote a not uncritical but generally positive review of the book, which like the essay remained unpublished until 1979.

Husserl presented Twardowski's problem as a pair of opposed propositions, which bring the whole issue to the nub:[15]

1. Not every idea (*Vorstellung*) corresponds to (has) an object.
2. Every idea presents (*stellt vor*) an object.

Twardowski's reply to this had been to deny the first proposition and say that although the object sometimes does not exist, every idea presents an object; cases where the contrary appears to hold result from confusing not existing with not being presented. Husserl rightly dismissed this explanation as spurious. His unwavering response to this theory of nonexistent objects was to reject it, because in his view the terms "object" and "existent, actual, real object" were equivalent; that is, necessarily, every object exists, and talk to the effect that there are objects that do not exist is illegitimate and misleading. As to how such talk might arise, in the 1894 essay Husserl offers an example and a diagnosis. The example is the Greek god Zeus.[16] Consider the proposition

Zeus is (identical with) the supreme Olympian god.

Where ideas "A" and "B"[17] present real (that is, existent) objects, the judgment or proposition

A is (identical with) B

[14] Simons 2007.

[15] Husserl 1979, 315–16.

[16] For the record, Husserl also earlier (p. 302) mentions an example, "the present Emperor of France," which anticipated Russell's more famous Gallic royal by over a decade.

[17] I am using double quotes to name ideas; removing the quotes names the objects the ideas are about (if any, as ever). Husserl is not careful about quotation marks for ideas, their contents, their objects, etc. To practice safer quotation here would be a bit tedious.

is determinate with a determinate truth-value. It expresses the identity of A and B, and this (or its contradictory, whichever is true) is an objective fact. If we say

"A" and "B" present the same object

then this can amount to the same thing except that we talk about the object via two ideas presenting it. But if we mean that "A" and "B" present not the same real object but "only" the same intentional object, which does not itself exist, then this is according to Husserl an "inauthentic" (*uneigentlich*) mode of speech. It is correct to say "Zeus" and "the supreme Olympian God" present the same intentional object *according to Greek mythology*; with the italicized addition, this mode of speaking is all right, but it is natural to leave it out, since anyone now talking about such things takes it for granted that we are speaking within the confines of the Greek myths. "Obviously, whoever judges about mythical objects, goes along with the myth [*sich auf dem Boden der Mythus stellt*] without fully identifying with it."[18] If the myth were true and both ideas did present the same real object, then the identity would be a genuine one, and that is the sense of the apparently absolute identity proposition, "which, were it understood absolutely, would not be valid."[19] The Greeks themselves actually believed the stories, so Husserl contends the same (inauthentic) identity proposition can mean

The ancient Greeks believed there was a god Zeus and that he was the supreme Olympian god.

Likewise, the metalinguistic proposition

The names "Zeus" and "the supreme Olympian god" name the same object

if understood literally (authentically) is false, but the whole point or "natural function" of such a proposition, like that of the identity proposition, lies in their generally understood inauthenticity. Understood literally, the identity proposition is false; understood in the modified way, it is not about Zeus but about ideas, and only seems to commit us to some kind of intermediate object.

Husserl's theory of how we understand and express judgments and propositions concerning fictions may not be sophisticated by modern standards, but it is very clear and considerably advanced over most other views of its time, and worthy of comparison with the views of his contemporary Frege.

In his largest and most important work, the *Logical Investigations* of 1900–1901, Husserl sets out his own theory of intentional consciousness in the fifth investigation, "On

[18] Husserl 1979, 317.
[19] Ibid.

Intentional Experiences and Their 'Contents.'" This investigation contains an emphatic defense of the deflationary position that Husserl had adopted in the unpublished work of 1894. Taking again the example of Zeus, this time in his Roman guise, Husserl writes:

> If I have an idea of the god Jupiter, this god is my presented object, he is "immanently present" in my act, he has "mental inexistence" in the latter, or whatever expression we may use to disguise our true meaning. I have an idea of the god Jupiter: this means I have a certain presentative experience, the presentation-of-the-god-Jupiter is realized in my consciousness. This intentional experience may be dismembered as one chooses in descriptive analysis, but the god Jupiter will naturally not be found in it. The "immanent," "mental object" is not therefore part of the descriptive or real make-up of the experience, it is in truth not really immanent or mental. But it also does not exist extra-mentally, it does not exist at all. But this does not prevent our-idea-of-the-god-Jupiter from being actual, a particular sort of experience or particular mode of mindedness, such that he who experiences it may rightly say that the mythical king of the gods is present to him, concerning whom there are such and such stories. If however, the intended object exists, nothing becomes phenomenologically different. It makes no essential difference to an object presented and given to consciousness whether it exists, or is fictitious, or is perhaps completely absurd. I think of Jupiter as I think of Bismarck, of the Tower of Babel as I think of Cologne Cathedral, of a regular thousand-sided polygon as of a regular thousand-faced solid.[20]

I have quoted this passage at length for several reasons. First, it clearly continues the thinking of the 1894 paper. Second, it is absolutely unequivocal in its denial of nonexistent objects, and thus is fully in line with common sense. Not all passages by Husserl are as clear. Third, the positive theory Husserl hints at was elaborated many years later by Roderick Chisholm as the adverbial theory;[21] as so often happens, Husserl instinctively hits on something that became widely known only much later, and his treatment contains the germ of a whole line of development in a couple of throwaway passages.[22] Fourth, we already see the germ of the later theory of phenomenological reduction or bracketing: as far as the experience itself is concerned, there is no felt difference between an authentic (veridical) idea and an inauthentic (erroneous) one. Finally, and not unconnectedly, Husserl is still prepared to speak with the vulgar and allow that it is right to say—with a straight logical face—that someone is thinking of the god Jupiter.

[20] Husserl 1984, A 352–33, B_1 373; 2001, 558–59.
[21] Chisholm 1957, 120ff.
[22] Husserl similarly anticipated *en passant* core aspects of Grice's theory of meaning and Austin's theory of speech acts in the first investigation on language and meaning.

In the *Investigations* Husserl considers other mental acts and their objects, in particular judgments, assumptions, beliefs, and so on, with states of affairs (*Sachverhalte*) as their correlates. Husserl managed to differentiate clearly the role of truth-bearers—judgments, or their ideal contents, propositions—from truth-makers, which are states of affairs. This separation was one that neither Brentano, Twardowski, nor Meinong had achieved.[23]

At the end of the *Prolegomena* Husserl sketchily and sweepingly envisaged a science of the categories of objects and their interconnections, to parallel and contrast with the science of thoughts, judgments, and ideas or terms and propositions. A couple of years later Meinong in *Über Annahmen* came out with his own parallel idea of a general *Gegenstandstheorie* as well as developing the theory of objectives and assumptions. Husserl reckoned he had already done this work, and complained to Meinong in a long letter that Meinong might have been more careful in reading and citing him. The accusation is of sloppy and careless reading and citation at best, with a hint of an accusation of plagiarism. Meinong touchily insisted his views were independent and that he had not had the time to read Husserl's (long) writings on convergent topics; his references to Husserl were meant merely to indicate convergent trends. He was sorry to have cited Husserl at all if this had been unwelcome, and had he not cited Husserl at all "that would have kept for me the analogy to your previous behavior in regard to work from Graz" (i.e., apparently ignoring and failing to cite it).[24] Apart from one letter to Husserl sending him the 1904 manifesto on object theory and warning Husserl that his own students might themselves be less than scrupulous in according priority to Husserl, this was the prickly end of their correspondence. This was a great pity, as it meant that Brentano's two most able philosophical pupils, who had indeed arrived at partly similar conclusions along parallel routes, were henceforth huffily silent about each other when they could have been fruitfully exchanging ideas, works, and students.[25] Husserl later employed his own term "formal ontology" to clearly demarcate his theory from Meinong's object theory.

The achievements of Husserl's *Logical Investigations* are numerous, including the beginnings of his many valuable analyses of the structure and function of all manner of mental acts, but it was his uncompromising epistemological and Platonic realism that was soon to win him an enthusiastic following of younger philosophers from across Germany. By comparison with what was going on philosophically in Germany at the beginning of the twentieth century, especially among the various competing schools of neo-Kantianism, Husserl's no-nonsense interest in "the things themselves" and the

[23] In the sixth investigation Husserl used the term *wahrmachender Sachverhalt* for the first time.
[24] Meinong 1965, 108; Husserl 1994, 145.
[25] Such are the ills of inflated philosophical egos.

analysis of their essences was felt to be refreshingly direct. By the publication of his next major work, *Ideas for a Pure Phenomenology and Phenomenological Philosophy*, in 1913, however, Husserl had swung behind a version of transcendental idealism, influenced in part by conversations with the Marburg neo-Kantian Paul Natorp, in part by reading Fichte, and in part as an autonomous evolution of his own thought. The idealistic turn came as a shock to those students and admirers making up the core of what was loosely termed the phenomenological movement, many of whom demurred—but the war intervened, and Husserl took himself off from Göttingen to Freiburg, where he found a new generation of students.

In retrospect we can see that the turn did not come completely out of the blue, but had been prefigured as early as the *Logical Investigations*.[26] We already saw that from a descriptive-phenomenological point of view Husserl did not distinguish veridical acts from erroneous ones: if it looks like an idea of Jupiter and feels like an idea of Jupiter, then it is an idea of Jupiter, that is, an idea-of-Jupiter. The difference between an idea-of-Jupiter and an idea-of-Bismarck lies in two things: the act's content, which is experienced, and the fact that the latter has a real object out there while the former lacks such an object, which is not experienced but is wholly external and incidental to the act as such. Hence if Jupiter were to exist, or Bismarck not to, it would make no difference to any particular presentative act "of" either.

Husserl was, however, still drawn magnetically by the inauthentic (*uneigentlich*) mode of speaking about Jupiter and so on, and starting in 1908 he built it into a modification of his theory when he lectured about the theory of meaning at Göttingen.[27] In brief (since I have covered this transition in detail elsewhere), Husserl now distinguished *three* components in connection with an act of presenting an object: the act itself and its various components, including a component that presents the object.[28] The type of this component (which Husserl had previously simply called the "meaning") is the phenological or phansic concept of meaning: it is the type or species of something mental. Contrasted with this is now a second meaning, the phenomenological or ontic meaning.[29] The ontic meaning of a term is something that is neither mental nor a species of something mental, but is a necessary objective correlate of the act. Both of these are contrasted with the thing the act actually presents or refers to if veridical, the external or target object of the act. Whereas in the *Investigations* Husserl had presentations

[26] This is the sole philosophical proposition on which I find myself to be in agreement with Jacques Derrida.

[27] Materials for the course entitled "Philosophische Übungen über Grundprobleme der Bedeutungs- und Urteilslehre" were published in 1987 as *Vorlesungen über Bedeutungslehre, Sommersemester 1908*.

[28] Simons 1995b, §7.

[29] Husserl 1987, §8.

of Jupiter and nothing else, now he has both presentations of Jupiter and their correlate, the ontic meaning, while in the case of Bismarck he now had three things instead of two: presentations of Bismarck, Bismarck himself, and the ontic meaning. The ontic meaning of an act of presentation was relabeled "noema" in the *Ideas* of 1913, and was there posited both as necessary to all acts that present something and as an abstract entity similar in kind to Frege's *Sinn* but conceived as belonging to all acts and not just linguistic ones.[30] As a result, Husserl is now able to speak of intentional objects as something distinct both from the actual object (if any) and from the acts of presentation. In *Ideas* the elaboration is carried further, but I shall not continue to pursue it in all its detail because the chief point is that with the postulation of the noema as an entity distinct from both mental presentations, on one hand, and their objects (if any), on the other, Husserl is able in effect to remove the hyphens from "idea-of-Jupiter" with a (more or less) clear conscience. The idea-of-Jupiter is mental (Jupiter doesn't exist but would be non-mental, indeed supernaturally physical, if he did), whereas the Jupiter-noema, Jupiter-as-presented, is an abstract entity (it exists but is neither physical nor mental). Husserl can also explain how one can give objective sense to the distinction felt between the idea "Jupiter" and the idea "the supreme Olympian god": different noemata, but if the Greek myths were true, they would denote the same object.

Husserl's theory give him a non-adverbial way for him to analyze statements about intentionality, and cleared the way for him to bracket the external object altogether in his epoché and downgrade it to secondary, mind-dependent status in his transcendental idealism. These methodological moves are now outdated, however, and largely discredited options detachable from the analysis, in which there is much to find acceptable. In particular, the different layers of analysis—of the processes of thinking (noesis) and the abstract correlate or content constituted thereby (noema), of the complexes of noeses and noemata variously constructed mentally and semantically, and the distinction of all from the object (if any)—chime perfectly happily with most modern semantic and many psychological theories. Questions of how acceptable Husserl's view is in all respects are matters of detail by comparison with the almost wholesale rejection of Meinong's nonexistents.

After 1913 there are no essential structural or methodological changes to Husserl's analysis. He did spend much more effort on analyzing the way in which noemata and their complexes are constituted by mental activity, how things are given to us over time, and in particular how the familiar objective world is given to us. He did acknowledge a pre-cultural, species-wide status to this familiar world under the title of *Lebenswelt*, but this was a label, not a change of methodological mind back to realism. In his 1929 *Formal and Transcendental Logic* Husserl envisaged an investigation of the correlates of different kinds of mental acts and contents under the title "formal ontology," but

[30] This is stressed in Føllesdal 1969.

again closer inspection reveals this investigation to be one carried out within the limitations imposed by the phenomenological reduction. It is ontology, but in brackets or quotation marks.

5. ASSESSMENT

Brentano's reintroduction of the ancient and medieval concept of intentionality, reversing the leveling damage done by Descartes's and Locke's way of ideas, let loose a landslide of good descriptive philosophy, and of a level of detail in psychological and semantic investigation that went beyond his own achievements, indeed beyond what he was willing to countenance. In their different ways, Twardowski, Meinong, and Husserl opened up the relation of mental about-ness to an extent that has not been realized before or since. Of the three, Meinong offers an analysis with the greatest ontological detail, while Husserl came to spend most of his energies on phenomenological description to the detriment of his original robust realism. Husserl's initial common sense gave way to the blandishments of idealism, while Twardowski and to a much greater extent Meinong were willing to embrace a hyperrealism driven by fear of lapsing into the idealism Brentano had shown how to overcome. Brentano's own later reism and its vagaries and problems constitute a topic for another time.

Subsequent history dealt harshly with Meinong: he was put down by Russell and largely ignored except as a bogeyman thereafter. Only in the 1980s did more sensitive and sympathetic treatments emerge. Twardowski sacrificed his own writing career for the sake of organizing philosophical life in Poland. His writings, never abundant, had little impact outside that country, but his efforts and example turned Poland into a philosophical and logical powerhouse that since then has always punched above its weight philosophically. Husserl saw former students turn against his views, and was replaced by Heidegger. He died not knowing that his huge *Nachlass* would be rescued from the Nazis. But he also retained some loyal students and has maintained the highest profile among the three in postwar philosophy. The Husserl publication industry is an enterprise of impressive proportions and results. However, subsequent Husserl scholarship has suffered both from the deadening weight of so much material and from a certain lack of independence. Many Husserlians have felt they needed to defend the master in all respects and against all comers. This is an attitude of unswerving loyalty toward the master typical of the German institution of a philosophical school, one that Brentano and his students understood and to which they subscribed passionately, but which is alien to modern analytic debate. I consider *all* the four main philosophers dealt with here to have been great thinkers, all to have had something of considerable positive value to contribute to the debate about the relationship between mind and its

objects, and all to have been partly right and partly wrong in their views. It would of course be highly improbable for this not to be the case, but the ways in which they did or did not err have continued to be—for me, at any rate—frustrating and instructive in almost equal measures.

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12

LOGIC AND METAPHYSICS IN EARLY ANALYTIC PHILOSOPHY

Michael Beaney

INTRODUCTION

The relationship between logic and metaphysics has been one of the central issues throughout the history of analytic philosophy, and a particular understanding of this relationship was fostered by the so-called "linguistic turn" or "logico-linguistic turn" that took place in philosophy in the first half of the twentieth century. According to one well-known view of the significance of this turn, championed most notably by Michael Dummett, it is logic that provides the basis for metaphysics rather than the other way round, and correspondingly, the philosophy of language that provides the basis for the philosophy of thought.[1] Just as Descartes has been seen as inaugurating an epistemological turn in philosophy, replacing the emphasis on metaphysics as "first philosophy" in the earlier Platonist and Aristotelian traditions, so too have the founders of analytic philosophy been seen as inaugurating a logico-linguistic turn, replacing the emphasis on epistemology in the Cartesian tradition and that combination of epistemology and metaphysics in the subsequent Kantian tradition.

The actual historical story is far more complicated, of course. Certainly, the term "logico-linguistic turn" marks a genuine event, but it was one that took place gradually, and its development represents only one strand within analytic philosophy.[2] Contrary to what Dummett has suggested, the ideas associated with the linguistic turn do not *define* analytic philosophy. Indeed, in the early work of the four founders of analytic philosophy, Gottlob Frege (1848–1925), G. E. Moore (1873–1958), Bertrand Russell (1872–1970), and Ludwig Wittgenstein (1889–1951), metaphysical conceptions play a fundamental role, and the linguistic turn can only really be seen as *foreshadowed* in their thought. In the first four sections of this essay I will look at their work in turn, with

[1] See especially Dummett 1991, 1993.

[2] For discussion, see Hacker forthcoming.

the aim of elucidating their metaphysical conceptions and the relationship between their logic and metaphysics, using the problem of relations as a way of exploring the differences between their views.[3] In the final section I will consider the question of the status of the metaphysical propositions formulated in the work of Frege and Wittgenstein, in particular, a question that has generated a great deal of controversy over the last few years.

1. FREGE

There is little doubt that logic lies at the core of Frege's work. In his first book, the *Begriffsschrift*, published in 1879, he developed the first system of modern logic, creating the predicate calculus by inventing quantifier notation and incorporating the propositional calculus, for which he also provided an axiomatization. The central aim of his life's work (at least until Russell informed him in 1902 of the contradiction in his system) was to demonstrate the logicist thesis that arithmetic is reducible to logic, and he realized that in order to do this, he needed to develop logic sufficiently to be able to formalize statements of multiple generality, such as "Every number has a successor". Such statements are prevalent in mathematics, but traditional (Aristotelian) logic had had great difficulty in analyzing them. In quantificational logic, however, such statements are easily handled, and the enormous power that the new logic possessed convinced Frege that it must have its source in the underlying nature of reality. His philosophy was in many ways an attempt to uncover and make clear this reality.

Frege's fundamental innovation lay in extending the use of function-argument analysis from mathematics to logic; and it is no exaggeration to say that his philosophy essentially results from thinking through the implications of this.[4] The pattern of his thinking can already be seen in his preface to the *Begriffsschrift*:

> The very invention of this Begriffsschrift, it seems to me, has advanced logic. I hope that logicians, if they are not put off by first impressions of unfamiliarity, will not repudiate the innovations to which I was driven by a necessity inherent in the subject matter itself. These deviations from what is traditional find their justification in the fact that logic hitherto has always followed ordinary language and grammar too closely. In particular, I believe that the replacement of the concepts *subject* and *predicate* by

[3] There are other issues that might have been chosen to provide a narrative thread for such an elucidation, such as the nature of logic itself. But in the space available here, the problem of relational propositions offers an excellent way to explore some of the key similarities and differences between the four philosophers, as well as questions of influence and critique.

[4] For fuller substantiation of this, see Beaney 2007d; 2011.

> *argument* and *function* will prove itself in the long run. It is easy to see how taking a content as a function of an argument gives rise to concept formation. (1879, vii/1997, 51)

According to Frege, a proposition such as "Socrates is mortal" is to be analyzed not in traditional subject-predicate terms, as involving the subject term "Socrates" and the predicate term "mortal" joined by the copula, but in function-argument terms, "Socrates" representing the argument and "*x* is mortal" the function, where "*x*" indicates the place where the argument term goes to "complete" the proposition.[5] At this simplest level, there might be little to decide between the two analyses; but the value of function-argument analysis comes out when we consider statements involving quantifiers such as "all" or "some". "All humans are mortal", for example, is construed by Frege as "If anything is human, then it is mortal", which can be expressed in function-argument terms as "For all *x*, if *x* is human, then *x* is mortal". Such an analysis shows the proposition to have a more complex (quantificational) structure than subject-predicate analysis suggests; and this is illustrated to an even greater extent when statements of multiple generality are considered. The replacement of subject-predicate analysis by function-argument analysis did indeed prove itself in a powerful way.

As Frege also notes in the passage just quoted, replacing subject-predicate analysis by function-argument analysis also leads to a new view of concepts and concept-formation. Consider the example he gives in §9 of the *Begriffsschrift*, where he explains his conception of a function:

(HC) Hydrogen is lighter than carbon dioxide.

According to Frege, this can be analyzed into "hydrogen", representing the argument, and "is lighter than carbon dioxide", representing the function. Taking hydrogen as the argument, in other words, yields the concept *is lighter than carbon dioxide*. On Frege's view, concepts *are* functions, the expressions for which result from removing an argument term from a proposition. In the case of (HC), this suggests that there is a further possibility: taking carbon dioxide as the argument, yielding the concept *is heavier than hydrogen* as the concept; and Frege does indeed point out that (HC) can be analyzed in this alternative way, resulting in the formation of a different concept. Of course, we might regard this latter analysis as better suited to the following proposition:

(CH) Carbon dioxide is heavier than hydrogen.

[5] I use "proposition" here as the translation of Frege's "*Satz*". For Frege (in the cases that will concern us here) a *Satz* is a sentence with "content" (to use his early term) or "sense" (as he understood that in his later work). The differences between Frege's conception of a "proposition" and Moore's and Russell's will emerge in due course.

According to Frege, however, (HC) and (CH) are equivalent: they have the same "conceptual content", as he calls it, and it is this content that is analyzable in alternative ways.

In fact, there are yet further ways of analyzing this content. Frege points out that it can also be analyzed into two arguments and a two-place function, that is, a relation (see 1879, 17–18). This analysis might be thought to be more fundamental, indeed, to be the ultimate analysis.[6] But even here there are two possibilities. For which relation do we take—the relation represented by "*x* is lighter than *y*" or the *converse* relation, represented by "*x* is heavier than *y*"? These are not the same relation; so even at the supposedly ultimate level, there are alternative analyses. (I shall return to the implications of this, as far as the differences between Frege and Russell are concerned, in section 3 of this essay.)

But if one and the same conceptual content can be analyzed in such different ways, then this obviously raises the question of what exactly Frege means by "conceptual content". According to Frege, two propositions have the same conceptual content if and only if they have the same possible consequences (see 1879, 3). To say that two propositions have the same possible consequences is to say that they are logically equivalent, that is, that one implies the other, and vice versa. So Frege's criterion for sameness of conceptual content (in the case of propositions) can be formulated as follows:

(CC) Two propositions have the same conceptual content if and only if they are logically equivalent.

On this criterion, (HC) and (CH) clearly have the same conceptual content. But does this then mean that both the concept *is lighter than carbon dioxide* and the concept *is heavier than hydrogen* are part of this content? And if the answer is yes, then does this not imply that the content also includes both the relation represented by "*x* is lighter than *y*" and the converse relation represented by "*x* is heavier than *y*"—as well as the two relevant arguments, hydrogen and carbon dioxide? And if there are yet further ways of analyzing that content, then are the results of these analyses not also included? Is there are any limit to what is included in a content? What sense could be given to a "content" that seems to include such a variety of different things?

At the time of the *Begriffsschrift*, Frege did not address the metaphysical question of what exactly conceptual contents were. But he seems to have thought of them as something like "circumstances" or "(possible) states of affairs", understood in such a way as to allow different kinds of objects to be contained within them even if those objects are not explicitly referred to in any proposition that has that circumstance or state of affairs as its content. A "fact" was then understood as a circumstance that obtains.[7]

[6] See, for example, Dummett 1981, ch. 15. I return to this below.

[7] See Beaney 2007d, §2.

This comes out more clearly in the book he published five years later, *Die Grundlagen der Arithmetik* (1884). In the central sections of this work, in seeking to establish his view that numbers are logical objects, he considers the possibility of defining abstract objects such as numbers and directions contextually, by means of the following equivalences:

(Da) Line *a* is parallel to line *b*.
(Db) The direction of line *a* is identical with the direction of line *b*.

(Na) The concept *F* is equinumerous to the concept *G*. (There are as many objects falling under concept *F* as under concept *G*, that is, there are just as many *F*s as *G*s.)
(Nb) The number of *F*s is identical with the number of *G*s.

In moving from (Da) to (Db), Frege writes, "We split up the content in a different way from the original way and thereby acquire a new concept", the concept of direction (1884, §64/1997, 111). So too, Frege suggests, we acquire the concept of number by moving from (Na) to (Nb), the fact that the former can be defined purely logically (since one—one correlation is involved) showing that (Nb), too, can be defined purely logically. Frege clearly assumes here that (Da) and (Db), and (Na) and (Nb), respectively, have the same conceptual content. So even though (Da) does not make explicit reference to directions, nor (Na) to numbers, such objects are still seen as part of the content of those propositions, since they are explicitly referred to in propositions that have the same content, that is, (Db) and (Nb), respectively.

Admittedly, Frege goes on to raise objections to such a strategy of contextual definition. But this is not because he has doubts that (Da) and (Db), and (Na) and (Nb), have the same conceptual content; rather, it is because of the so-called Julius Caesar problem. No such contextual definition, he argues, enables us to distinguish the relevant abstract objects from any other object—for example, Julius Caesar—that is not itself an abstract object of the relevant kind, and given to us as such. This leads Frege to offer explicit definitions of numbers instead, identifying them with appropriate (logically definable) *extensions of concepts*. But extensions of concepts, too, are abstract objects, so what justifies their introduction? In the *Grundlagen* Frege took it for granted that we know what such objects are, but in his later work he felt obliged to appeal to what is effectively a contextual definition of extensions of concepts:

(Ca) The concept *F* is co-extensive with (that is, applies to the same objects as) the concept *G*.
(Cb) The extension of the concept *F* is identical with the extension of the concept *G*. (See, e.g., 1891, 16/1997, 139)

The generalization of the equivalence expressed here is what Frege captured in Axiom V of his magnum opus, the *Grundgesetze der Arithmetik*, the first volume of which was published in 1893. It is in this work that he sought to provide the formal demonstration that arithmetic is reducible to logic; and it is Axiom V that was to prove responsible for the contradiction in his system that eventually brought the end to his logicist project.

The status of Axiom V—and of equivalences such as that between (Da) and (Db), (Na) and (Nb)—is one of the central problems in Frege's philosophy. In his early work (in *Begriffsschrift* and *Grundlagen*, in particular), it is clear that he held that such equivalences embodied sameness of conceptual content. But by 1891, he had come to recognize that there were difficulties in his early notion of content, and he divided that notion into the dual notions of sense (*Sinn*) and *Bedeutung*.[8] The change was triggered by his reflection on identity statements. Consider two statements of the form "$a = a$" and "$a = b$", where "a" and "b" refer to the same object. On Frege's early view, "a" and "b" themselves have the same content, which would suggest that "$a = a$" and "$a = b$" also have the same content. But the latter may be informative, while the former is not. In the *Begriffsschrift*, Frege's response was to interpret such statements *metalinguistically*, as asserting that two names have the same content, that is, refer to the same object (see 1879, §8). He later realized, however, that what is informative about true statements of the form "$a = b$", if they are indeed informative, has to do with how the object referred to is presented or determined, as reflected in the two names. Names, he came to argue, have both a sense and a *Bedeutung*. The *Bedeutung* of a name is the object referred to (if any), and its sense contains the "mode of presentation" or "mode of determination" of that object.[9] An identity statement of the form "$a = b$" is true if and only if "a" and "b" have the same *Bedeutung*, and informative if and only if "a" and "b" have different senses, that is, present or determine that object in different ways. "The morning star is the evening star", for example, is both true and informative, because both names refer to Venus but present that object in two different ways (as what can be seen in the morning and as what can be seen in the evening).

What are we then to say about the status of Axiom V and the other equivalences, such as that between (Na) and (Nb)? Frege certainly held that they embody sameness of *Bedeutung*, but he vacillated somewhat on whether they embody sameness of sense as well, and

[8] "*Bedeutung*" is usually translated as "reference" or "meaning", but for reasons I explain in §4 of my introduction to *The Frege Reader* (1997), I prefer to leave it untranslated. For more on the distinction that Frege came to draw between sense and *Bedeutung*, see Beaney 2011.

[9] See 1892a, 25–257/1997, 151–53. It makes better sense to talk of "modes of determination" rather than "modes of presentation", so as to allow (as Frege wants to do) that a name may lack a *Bedeutung*. Frege does, in fact, talk more of modes of determination than of modes of presentation, the beginning of "Über Sinn und Bedeutung" being the only real exception, where Frege is motivating the basic appeal to sense.

it is easy to see why. On the one hand, if Axiom V is meant to be a logical law, then it would seem to require sameness of sense. In "Function and Concept" Frege does indeed talk of what are effectively the two sides of the equivalence captured in Axiom V as "express[ing] the same sense, but in a different way" (1891, 11/1997, 136). On the other hand, if we take (Da) and (Db) as our example, then our understanding of each proposition appears to employ different concepts—in one case the concepts of line and parallelism and in the other case the concepts of direction and identity. There is clearly something that (Da) and (Db) have in common, whether we call this their "content" or *"Bedeutung"*, but at the same time they offer different conceptualizations of this: they present that content or *Bedeutung* in different ways, which is to say that they have different senses.[10]

The issue is complicated, however, by the fact that Frege regarded the *Bedeutung* of a sentence as its truth-value. This has been enormously controversial, and Frege has frequently been criticized for assimilating propositions to names. But once again his motivation was his concern with identity statements. Consider the following identity statement:

(1) $(-1)^2 = 1$.

What is the *Bedeutung* of such a statement? Since the *Bedeutung* of the terms that flank the identity sign is the same, namely, the number 1 (which is just "presented" or "determined" in two different ways), a natural thought is that the *Bedeutung* of the statement as a whole is the self-identity of this number, that is, the number 1's being identical with itself. But (1) can also be construed in different ways—for example, as making either of the following two claims:

(1a) –1 is a square root of 1.
(1b) 1 is the result of squaring –1.

(1a) seems to be about –1, to which it attributes the property of being a square root of 1, while (1b) seems to be about 1, to which it attributes the property of being the result of squaring –1. So there are clearly different candidates for being the *Bedeutung* of (1), given that (1a) and (1b) are equivalent to it. If we were to talk of "content" rather than *"Bedeutung"* here, then the content of (1) would seem to include the numbers 1 and –1 as well as various properties—just as the content of (HC) above was seen to include a variety of different things.

In fact, the situation is worse than this. For from (1) we can infer:

(2) $(-1)^2 + 1 = 2$.

[10] For more on this tension in Frege's account, see Beaney 2005b.

Furthermore, if Frege's logicism is right, then (2) can be inferred from (1), and (1) from (2), purely logically, so (1) and (2) are logically equivalent. By his earlier criterion (CC), they would thus have the same "content". But if this is so, then it looks as if the content of (1) and (2), as of any other arithmetical identity statement, must include all the numbers and a lot more besides. So if *Bedeutung* is understood as anything like content on Frege's earlier conception, and his early notion of content does indeed match up with his later notion of *Bedeutung* in the case of names, then we seem to be pulled in the direction of taking the *Bedeutung* of a proposition to involve far more than initially appears—in the case of an arithmetical proposition, the whole of arithmetic and logic.

Frege did not take this path, however. Perhaps he appreciated these apparent implications of his earlier notion of content and recoiled from them. Certainly, he seems to have thought that the *Bedeutung* of a proposition ought to be some one (simple) thing, a thought that was no doubt encouraged by his use of function-argument analysis. For construing a proposition in function-argument terms suggests that its meaning (whether "content", "*Bedeutung*", or "sense") is a function of the meaning of its parts, that is, it is the value of an appropriate function for a given argument or arguments, and it would be natural to take this value as having the same ontological status as the argument or arguments—just as the value of an arithmetical function such as $x^2 + 1$ yields a number as value for any given number as argument. In the case of the *Bedeutung* of a proposition, Frege saw no other option but to take the value as its truth-value. This comes out clearly in "Function and Concept", where the idea first appears (1891, 13). But Frege never really offers an *argument* for this view. Even more than a decade later, no convincing argument can be found in his work. In explaining his ideas to Russell in a letter dated November 13, 1904, for example, he writes:

> Now the question arises: when does a proposition refer to [*bedeutet*] the same object as another proposition? At any rate, '$4^2 - 3^2 = 7$' must refer to [*bedeuten*] the same object as '$7 = 7$' because '$4^2 - 3^2$' refers to [*bedeutet*] the same object as '7'. Now what is this object if it is not the truth-value? (1976, 247–48/1980, 165, trans. slightly modified)

Frege clearly assumes here that the *Bedeutung* of a proposition must be an object (of the same kind that names refer to), thus apparently ruling out more complex entities such as states of affairs or combinations of objects. But even this does not make a truth-value an obvious candidate for the *Bedeutung* of a proposition without the additional assumption that truth-values are objects. This might seem a surprising assumption to make, but Frege already held that numbers are logical objects, and in thinking through the implications of function-argument analysis, he had convinced himself that there

are only two kinds of entities, which are quite distinct from one another—functions and objects. Since truth-values are not functions, they had to be taken as objects.[11]

Whatever the motivation for introducing truth-values as the *Bedeutungen* of propositions, there is no doubt that by 1891, when "Function and Concept" was published, Frege had streamlined his ontology to cohere with his semantics. At least in the domain of science, that is, where all propositions have a truth-value, every name has both a sense and a *Bedeutung*, on Frege's view. The sense of a name is the mode of determination of its *Bedeutung*, and its *Bedeutung* is the object referred to. Removing one or more names from a proposition yields a functional expression which refers to a function, the resulting gaps in the expression indicating the argument-places where the names are inserted to "complete" the proposition. Functions, he thus suggested, are "unsaturated" and objects "saturated", since functional expressions contain gaps, while names do not. Although he admitted that such talk was only metaphorical (see 1892b, 205), he insisted on the absolute distinction between functions and objects. Since functions are essentially *mappings* from one or more objects onto another object, the distinction itself seems well grounded. It makes little sense to construe mappings as themselves objects, even though objects are involved in their operation. With this distinction between functions and objects in place, together with the idea of truth-values as the *Bedeutungen* of propositions, Frege could then define a concept as a function whose value is always a truth-value, that is, as a function that maps an object onto one of the two truth-values, which Frege called "the True" and "the False" (see 1891, 13–15).

Let us return, then, to the question of the status of Axiom V and equivalences such as that between (Da) and (Db), (Na) and (Nb). On Frege's later view, such equivalences embody sameness of *Bedeutung*. If one member of the pair is true, then the other is true, and vice versa. But do they or do they not embody sameness of sense? Consider all four propositions, (Da), (Db), (Na) and (Nb), and let us assume that all four are true. Then they all have the same *Bedeutung*. But (Da) and (Db) clearly have something more in common with each other than they do with either (Na) or (Nb). We could capture this by saying that (Da) and (Db) also have the same sense, but if "sense" is understood as "mode of determination" or "mode of presentation", then it would seem that they have different senses because they "determine" or "present" their *Bedeutung* differently. But if we say that they have different senses, then since (Na) and (Nb) would also have different senses, we would have lost the contrast that we want between (Da) and (Db), on the one hand, and (Na) and (Nb), on the other. Clearly, we need *two* notions of sense, one to capture what (Da) and (Db) have in common—over and above their sameness of *Bedeutung*, and which distinguishes them from other propositions

[11] For fuller discussion of what led Frege to take truth-values as objects, see Beaney 2007d.

such as (Na) and (Nb)—and one to capture the way in which they differ. In my view, Frege's notion of sense was given too much work to do, and he never appreciated the inconsistent demands placed upon it.[12]

Whatever criticisms might be made of Frege's views, though, it should be clear that he was not averse to drawing metaphysical conclusions from his work—or more specifically, making metaphysical assumptions to underpin his use of function-argument analysis. As we will see, Russell and the early Wittgenstein also drew metaphysical conclusions from their work, although their conclusions were different, and in the case of Russell, the use of function-argument analysis was subordinate to his use of whole-part analysis. In the use of the latter, reflected in a decompositional conception of analysis, Russell was influenced by Moore, to whose early philosophy we now turn.

2. MOORE

As I see it, the analytic tradition in philosophy has two main strands, one originating in the work of Frege and the other in the work of Moore. Russell and Wittgenstein critically synthesize the two strands in different ways, and the history of analytic philosophy is essentially the story of the intertwining in creative tension of these two strands. The Moorean strand has its source in Moore's rebellion against British idealism at the turn of the twentieth century, a rebellion that Russell soon endorsed and considerably strengthened.

The first important work here is Moore's paper "The Nature of Judgment", published in *Mind* in 1899. In this paper Moore reacts, in particular, to the idealism of F. H. Bradley (1846–1924) and advocates a naive realism in response. A proposition, he claims, "is composed not of words, nor yet of thoughts, but of concepts", where concepts are "possible objects of thought" (1899, 4).[13] When I say "This rose is red", Moore writes, "What I am asserting is a specific connexion of certain concepts forming the total concept 'rose' with the concepts 'this' and 'now' and 'red'; and the judgment is true if such a connexion is existent" (ibid.). After reiterating his claim that "a proposition is nothing other than a complex concept . . . a synthesis of concepts" (1899, 5), he goes on:

> It seems necessary, then, to regard the world as formed of concepts. These are the only objects of knowledge. They cannot be regarded fundamentally as abstractions either from things or from ideas; since both alike can, if anything is to be true of them, be composed of nothing but concepts. A thing becomes intelligible first when it is analysed into its constituent concepts. (1899, 8)

[12] For a fuller account of this, see Beaney 1996.

[13] We can see already here the difference between Frege's conception of a "proposition" and Moore's. In particular, Moore makes no distinction between concept and object, and propositions are conceived as *composed* of concepts.

Analysis is clearly accorded here a central role in philosophy, "analysis" being understood in a decompositional sense, as involving the breaking down of something complex (a proposition) into its simple parts (its constituent concepts). But what is worth noting is the metaphysical gloss that is put on all this. The world itself, Moore asserts, is formed of concepts. There is no hint here of the linguistic turn in philosophy.

This is confirmed when we consider Moore's main early work, *Principia Ethica*, published in 1903. In the first chapter, entitled "The Subject-Matter of Ethics", Moore addresses what he takes as the fundamental question of ethics, concerning how "good" is to be defined (1903, 5). He writes:

> What, then, is good? How is good to be defined? Now, it may be thought that this is a verbal question. A definition does indeed often mean the expressing of one word's meaning in other words. But this is not the sort of definition I am asking for. Such a definition can never be of ultimate importance in any study except lexicography. If I wanted that kind of definition I should have to consider in the first place how people generally used the word 'good'; but my business is not with its proper usage, as established by custom. I should, indeed, be foolish, if I tried to use it for something which it did not usually denote: if, for instance, I were to announce that, whenever I used the word 'good', I must be understood to be thinking of that object which is usually denoted by the word 'table'. I shall, therefore, use the word in the sense in which I think it is ordinarily used; but at the same time I am not anxious to discuss whether I am right in thinking that it is so used. My business is solely with that object or idea, which I hold, rightly or wrongly, that the word is generally used to stand for. What I want to discover is the nature of that object or idea, and about this I am extremely anxious to arrive at an agreement. (1903, 6)

What Moore is clearly seeking, then, is a real—as opposed to nominal or merely verbal—definition of "good". He comes to the conclusion, however, that there can be no such definition and that "good" is in fact indefinable.

> My point is that 'good' is a simple notion, just as 'yellow' is a simple notion; that, just as you cannot, by any manner of means, explain to any one who does not already know it, what yellow is, so you cannot explain what good is. Definitions of the kind that I was asking for, definitions which describe the real nature of the object or notion denoted by a word, and which do not merely tell us what the word is used to mean, are only possible when the object or notion in question is something complex. You can give a definition of a horse, because a horse has many different properties and qualities, all of which you can enumerate. But when you have enumerated them all, when you have reduced a horse to his simplest terms,

> then you no longer define those terms. They are simply something which you think of or perceive, and to any one who cannot think of or perceive them, you can never, by any definition, make their nature known. (1903, 7)

What can be defined, according to Moore, is what is complex, and once we have reached the simplest parts of all in defining something, then definition comes to an end. Since "good", like "yellow", is a simple notion, it is indefinable. (See 1903, 7–8.)

But how do we know that "good" is a simple notion? Moore writes:

> I say that [good] is not composed of any parts, which we can substitute for it in our minds when we are thinking of it. We might think just as clearly and correctly about a horse, if we thought of all its parts and their arrangement instead of thinking of the whole: we could, I say, think how a horse differed from a donkey just as well, just as truly, in this way, as now we do, only not so easily; but there is nothing whatsoever which we could so substitute for good; and this is what I mean, when I say that good is indefinable. (1903, 8)

Substitutability is thus the test for simplicity. If there is no complex that we can "clearly and correctly" substitute when thinking about something, then that something must be simple. It is this test that underlies Moore's famous "open question argument", although this is not a phrase that was used in *Principia Ethica*. According to Moore, for any attempted definition of "good", it is always an open question as to whether something that we would call "good" does indeed have the relevant defining property. Good cannot, therefore, be identical with this property, since otherwise we could not legitimately ask this question.

Moore's particular target in *Principia Ethica* was what he called the "naturalistic fallacy" in ethics—the supposed fallacy of holding that "good" can be defined in purely naturalistic terms, for example, as "that which causes pleasure" or "that which we desire to desire" (see 1903, 15–16). Of course, if Moore is right and "good" cannot be defined at all, then a fortiori it cannot be defined naturalistically. So his claim that one must avoid the naturalistic fallacy immediately follows. Now the details of Moore's critique of naturalism in ethics need not concern us here. What is important for current purposes is his governing conception of analysis and its metaphysical presuppositions. For in seeking a real definition, on Moore's view, one is seeking an *analysis* of a complex whole into its constituent parts, the aim being to uncover the simple elements out of which everything else is composed. Moore writes: "we cannot define anything except by an analysis, which, when carried as far as it will go, refers us to something, which is simply different from anything else, and which by that ultimate difference explains the peculiarity of the whole which we are defining" (1903, 10). There is a metaphysical

assumption here that there are indeed simple elements, and that everything else is composed out of them.

Moore's conception of analysis was straightforwardly decompositional: analysis involves the decomposition of something complex into its constituents. Moore was influenced here by his two teachers at Cambridge, James Ward (1843–1925) and G. F. Stout (1860–1944), the latter, in particular, in turn influenced by Franz Brentano (1838–1917). Brentano's influence lay in his development of the theory of wholes and parts, which became known as mereology. Brentanian mereology might be characterized as based on three main principles—the principle of mereological essentialism, which states that a whole depends essentially on its parts (so that changing a part changes the whole); the principle of mereological adequacy, which states that all forms of complexity involve only whole-part and part-part relations; and the principle of mereological atomism, which states that each part of any whole can exist independently.[14] All three principles can be found in Moore's early philosophy. The second, for example, underlies the claim quoted above: "A thing becomes intelligible first when it is analysed into its constituent concepts"; the third reflects the metaphysical assumption just mentioned, that the end products of analysis are the simple elements out of which everything else is composed. As we will see, Russell also had a decompositional conception of analysis, although he did not see whole-part analysis as the only form of analysis; and both Russell and the early Wittgenstein endorsed Moore's atomism, although they had different metaphysical views of the nature of the simple elements that it was the aim of analysis to reveal.

3. RUSSELL

In introducing chapter 5, entitled "Revolt into Pluralism", of *My Philosophical Development*, Russell writes:

> It was towards the end of 1898 that Moore and I rebelled against both Kant and Hegel. Moore led the way, but I followed closely in his footsteps. I think that the first published account of the new philosophy was Moore's article in *Mind* on 'The Nature of Judgement'. Although neither he nor I would now adhere to all the doctrines in this article, I, and I think he, would still agree with its negative part—i.e. with the doctrine that fact is in general independent of experience. Although we were in agreement, I think that we differed as to what most interested us in our new philosophy. I think that Moore was most concerned with the rejection of idealism,

[14] See Bell 1999, which makes out the case for the claim that Moore was influenced—through Stout—by Brentano. See Beaney 2002, §2.2; 2007c, §3.

> while I was most interested in the rejection of monism. The two were, however, closely connected. They were connected through the doctrine as to relations, which Bradley had distilled out of the philosophy of Hegel. I called this 'the doctrine of internal relations', and I called my view 'the doctrine of external relations'. (1959, 42)

This makes clear that Moore's and Russell's "new philosophy" developed in opposition not to metaphysics as such but to the metaphysics of idealism and monism—and of Bradley's philosophy, in particular. Russell singles out the concern with relations as his own main motivation, and we can see this reflected in the work that he published around the turn of the twentieth century.

The most important work in this respect was Russell's book on Leibniz, published in 1900. According to Russell, Leibniz and Bradley shared a fundamental assumption, that all propositions are reducible to subject-predicate form. This assumption underlies what may be called Leibniz's "containment principle", that the truth of a proposition consists in the predicate concept being contained in the subject concept.[15] But it is also reflected in the doctrine of internal relations, which Russell formulates in *My Philosophical Development* as the claim that "every relation between two terms expresses, primarily, intrinsic properties of the two terms and, in ultimate analysis, a property of the whole which the two compose" (ibid.). As Russell goes on to note, however, this assumption is particularly hard to maintain in the case of propositions involving asymmetrical relations. Consider the example from Frege's *Begriffsschrift* discussed above:

(HC) Hydrogen is lighter than carbon dioxide.

Here we have an asymmetrical relation, represented by "is lighter than", being asserted to hold between hydrogen and carbon dioxide. Why is this not reducible to subject-predicate form?

Of course, as Frege himself suggested, we could analyze (HC) into "hydrogen" and "is lighter than carbon dioxide" (speaking at the linguistic level), which we could take to reflect its subject-predicate form. But if the latter expression is taken to be the predicate, then it does not represent an *intrinsic* property of hydrogen, since it involves reference to carbon dioxide and hence is itself relational. It might be suggested instead that we analyze (HC) into two simpler subject-predicate propositions attributing weights to hydrogen and carbon dioxide, such as the following:

(H) Hydrogen (H_2) has atomic weight 2.

[15] See, e.g., Leibniz's letter to Arnauld of July 14, 1686: "in every affirmative true proposition, necessary or contingent, universal or singular, the notion of the predicate is contained in some way in that of the subject, *praedicatum inest subjecto*. Or else I do not know what truth is" (1973, 62).

(C) Carbon dioxide (CO_2) has atomic weight 44.

(HC) is not equivalent to the conjunction of (H) and (C), of course, but it can at least be inferred from them. However, not only would such an inference itself involve a comparison of the two weights (presupposing the relational proposition "The atomic weight 2 is less than the atomic weight 44"), but the attribution of weights would also itself depend on measurement against an agreed standard and hence involve relational judgments. So it does seem as if propositions involving asymmetrical relations cannot be reduced to subject-predicate propositions without circularity or infinite regress.

Russell concluded from this that relations must be treated as *real*, that is, as genuine constituents of propositions, as he was inclined to characterize it at the time. So what would he say in answer to the problem raised in section 1 above? As we saw, according to Frege, (HC) has the same content as (CH): "Carbon dioxide is heavier than hydrogen". This content can be analyzed in different ways, even at the supposedly ultimate level. In other words, even if we follow Russell and treat relations as "real", the content can be analyzed into *either* the relation (two-place function) expressed by "*x* is lighter than *y*" *or* into the converse relation (two-place function) expressed by "*x* is heavier than *y*"—together with the two arguments, hydrogen and carbon dioxide.

This is not Russell's view, as he makes clear in §219 of *The Principles of Mathematics*, published three years after his book on Leibniz. He writes: "if we are to hold that '*a* is greater than *b*' and '*b* is less than *a*' are the same proposition, we shall have to maintain that both *greater* and *less* enter into each of these propositions, which seems obviously false" (1903, 228). Unlike Frege, Russell is clearly thinking of analysis in mereological terms, that is, decompositionally. Like Moore, Russell holds that a proposition is *constituted* out of its parts. Since a relation and its converse are real but distinct relations, the propositions that they constitute, together with the relevant objects, must themselves be different. There is no room, so to speak, for one and the same relational proposition to contain both the relevant relation and its converse, given that relations are real.

We see here a fundamental difference between Frege and Russell. Take two relational propositions "*aRb*" and "*bR'a*", where "*R*" represents a relation and "*R'*" its converse. According to Frege, "*aRb*" and "*bR'a*" have the same "content", to use his earlier terminology, each proposition just highlighting alternative function-argument analyses. According to Russell, on the other hand, since each proposition has a different decompositional analysis, yielding different constituents, they have different "contents" (as it might be put). So has Russell just not appreciated Frege's use of function-argument analysis? At the time of his Leibniz book, he had not yet studied Frege's writings, which were recommended to him by Giuseppe Peano (1858–1932), whom he met at the International Congress of Philosophy in Paris in July 1900. This was the event that Russell described in his *Autobiography* as "a turning point in my intellectual life" (1975, 147).

But by 1903, when *The Principles of Mathematics* was published, Russell had indeed started to read Frege and, through Peano, to appreciate the power of function-argument analysis in his own use and development of the new logic.[16] Despite this, however, he continued to think of the analysis of propositions in decompositional terms.

What we find in Russell's work from 1900 or so onward is the co-existence of function-argument analysis with decompositional analysis. In fact, in his writings immediately after *The Principles of Mathematics*, he explicitly recognizes the need to distinguish the two. In a brief note dating from 1904 and posthumously published in Volume 4 of his *Collected Papers*, he states:

> The point is really that there are two senses of *function*, namely
> (1) a complex of which x is a constituent;
> (2) a dependent variable whose value is determinate when the value of x is determinate. (1994, 96)

The distinction is here drawn *within* the notion of function. But in a further piece entitled "Fundamental Notions", from the same year, he writes:

> What we want to be clear about is the twofold method of analysis of a proposition, *i.e.*, first taking the proposition as it stands and analyzing it, second taking the proposition as a special case of a *type* of propositions. Whenever we use variables, we are already necessarily concerned with a *type* of propositions. E.g. "$p \supset q$" stands for any proposition of a certain type. When values are assigned to p and q, we reach a particular proposition by a different road from that which would have started with those values plus implication, and have so built up the particular proposition without reference to a type. This is how functions come in. (1994, 118)

The first is decompositional analysis, the second function-argument analysis. But Russell describes the latter in a way that might strike anyone who is familiar with Frege's characterization as peculiar. What Russell has in mind here is made more explicit toward the end of the piece: "We ought to say, I think, that there are different ways of analysing complexes, and that one way of analysis is into function and argument, which is the same as type and instance" (1994, 256).

Russell's idea might be explained by returning to Frege's example of (HC): "Hydrogen is lighter than carbon dioxide". The first form of analysis proceeds by decomposing the proposition into its constituents—hydrogen, carbon dioxide, and the relation expressed by "is lighter than". The second form of analysis is exemplified by extracting what Russell calls the "propositional function", expressed by "x is lighter than carbon dioxide" (which Frege,

[16] For details of the relationship between Frege and Russell, see Beaney 2005a.

of course, takes to represent the relevant concept, understood as "unsaturated"). This shows what *type* of proposition the proposition can be regarded as instantiating, namely, that type instantiated by "Helium is lighter than carbon dioxide", "Oxygen is lighter than carbon dioxide", and so on. It can also be regarded as instantiating other types, such as that instantiated by "Hydrogen is lighter than helium", "Hydrogen is lighter than oxygen", and so on (which Frege takes to involve the concept expressed by "*x* is heavier than hydrogen"). Propositional functions are not themselves *constituents* of the proposition, according to Russell, which is why a distinction is needed between the two forms of analysis.

The distinction Russell draws here corresponds to the distinction drawn by Michael Dummett between analysis and decomposition.[17] I find Dummett's own terminology misleading, since as I would prefer to put it, the distinction is between decompositional analysis (Dummett's "analysis") and function-argument analysis (Dummett's "decomposition"). Dummett claims that this distinction was implicit in Frege's work, but as we saw earlier in this essay, Frege had no conception of analysis as breaking down into "ultimate constituents". He does indeed also talk of analysis in mereological terms, that is, of wholes being decomposed into parts, but he does not have an *atomistic* mereological conception.[18] It was Moore and Russell who had this conception, lying at the core of their rebellion against British idealism.

As we have seen, in "The Nature of Judgment" Moore claimed that a proposition is a synthesis of concepts, concepts being the constituents of the world and the objects of knowledge. Russell held a similar view in the immediate aftermath of his rejection of idealism: a proposition quite literally contains the objects that the proposition is about. In understanding a proposition we become acquainted with the objects it contains. On both Moore's and Russell's accounts, we can indeed have direct and unmediated acquaintance with the objects of knowledge; this was the basis of their rejection of idealism, according to which all knowledge is mediated through ideas or conceptual structures. If knowledge is mediated, they argued, then it cannot be genuine knowledge, and scepticism threatens.[19]

Now, even if we allow that we can have direct acquaintance with objects (on some understanding of this epistemic relation), the obvious objection to Moore's and Russell's naive realism is that there seems to be all sorts of objects that propositions are about with which we cannot be acquainted. So does that mean that we cannot understand such propositions at all? For example, we can say things about objects that no longer exist or that exist at places far away, or about abstract objects such as numbers, or about theoretical entities such as electrons. We can even make claims about what could not possibly exist, such as a round circle or a benevolent, omnipotent, and omniscient God.

[17] See Dummett 1981, ch. 15.

[18] For an excellent account of the issues here, see Levine 2002.

[19] For details of Moore's and Russell's critique of idealism, see Hylton 1990, esp. ch. 4.

At the time of *The Principles of Mathematics*, Russell was prepared to countenance the view that even in these kinds of cases, there are indeed such objects with which we can be directly acquainted. Such objects may not exist, but they must have some kind of being to be talked about. As Russell put it in the *Principles*, "Numbers, the Homeric gods, relations, chimeras and four-dimensional spaces all have being, for if they were not entities of a kind, we could make no propositions about them" (1903, §427). In terminology that Russell later used, such entities may not *exist*, but they do *subsist*.[20]

Even at the time of the *Principles*, however, Russell recognized that such naive realism still faced problems—in particular, with regard to propositions involving quantifiers, such as "every", "any", "some", "a", and "the". Take the proposition "Every natural number has a successor". We understand this proposition, and indeed, know that it is true, but how can we be acquainted with every single number? How can the entire infinite series of natural numbers be "contained" in the proposition? It was in response to this problem that Russell put forward his theory of denoting concepts. According to this theory, a phrase such as "Every natural number" denotes not the relevant objects themselves—in this case, all the natural numbers—but what he called a "denoting concept". It is this concept with which we are acquainted when we understand the proposition, and it is the role of the denoting concept to denote the objects the proposition is about. "Every natural number", in other words, indirectly denotes the relevant objects via the denoting concept.

This theory enabled Russell to maintain his principle that every proposition must contain entities with which we are directly acquainted in understanding the proposition. It is just that, in certain cases, a gap opens up between what a proposition contains (and with which we must be acquainted) and what it is about. We can talk about entities with which we are not acquainted, in other words, as long as there is some denoting concept that denotes those entities. Russell was vague, however, about how exactly denoting concepts do denote, the precise relation obviously varying according to the denoting concept. With his characteristic frankness, he simply admitted that there were "puzzles in this subject which I do not yet know how to solve" (1903, §75).

The theory of denoting concepts soon gave way to the theory of descriptions, and part of the motivation for the latter were the problems that arose in making sense of the idea of a denoting concept. But it is not always appreciated that the theory of denoting concepts itself can at least offer some answer to the problem that is often taken as what Russell was only able to solve by means of the theory of descriptions. Consider Russell's example:

(Ka) The present king of France is bald.

How is it that we can understand such a proposition given that there is now no king of France? Do we have to assume that we are acquainted with a *subsistent* king of France?

[20] See, e.g., Russell 1905, 48.

According to the theory of denoting concepts, however, we could treat "the present king of France" as a denoting concept that in this case just happens not to denote anything. Furthermore, it might be suggested, there is no need in this particular case to explain the denoting relation, since there is nothing denoted. Nevertheless, there remains a problem concerning how we manage to talk about denoting concepts themselves. If we use the phrase (such as "the present king of France") that represents the denoting concept, then are we not talking about the object(s) (if any) that the denoting concept denotes rather than the denoting concept itself? It is this problem that is arguably at the root of Russell's notorious "Gray's elegy argument" in his seminal paper "On Denoting".[21]

The theory of descriptions offers a different solution. According to this theory, (Ka) is to be analyzed as a conjunction of three simpler propositions, stating that there is at least one king of France, that there is at most one king of France, and that whatever is king of France is bald—in other words, putting them together, as (Kb), which can then be formalized in the new logic as (Kc):

(Kb) There is one and only one king of France, and whatever is king of France is bald.
(Kc) $(\exists x)\,(Kx \,\&\, (\forall y)\,(Ky \rightarrow y = x) \,\&\, Bx)$.

What is significant about this analysis is that the denoting phrase "the present king of France", which occupies subject position in (Ka), is absent in (Kb), so that we no longer need to worry about what the denoting phrase denotes: the problematic definite description is "analyzed away". As Russell put it in "On Denoting", "The phrase *per se* has no meaning, because in any proposition in which it occurs the proposition, fully expressed, does not contain the phrase, which has been broken up" (1905, 51).

Russell's theory of descriptions has been hugely influential; it is frequently referred to as a "paradigm of analysis" and generally seen as characteristic of analytic philosophy. But the underlying move here—paraphrasing one proposition into another to clarify its "real" logical structure—was not new. It had already been made by Frege, for example, in arguing that number statements are assertions about concepts.[22] Take Frege's example (1884, §54):

(Ja) Jupiter has four moons.

[21] See Russell 1905, 48–51. For discussion of this argument, see Pakaluk 1993, Kremer 1994, Noonan 1996.

[22] See Frege 1884, §46, which I discuss in Beaney 2005a, §4. What we have here is what I have called "interpretive analysis" or (following Bentham) "paraphrastic analysis", which has always been around in one form or another in the history of philosophy and science, although it only began to be used with full self-consciousness around the turn of the twentieth century. See Beaney 2002, §1.3; 2007b; 2009a.

According to Frege, (Ja) is to be understood as predicating something not of Jupiter or of Jupiter's moons but of the concept *moon of Jupiter*, namely, that the concept is instantiated fourfold (the property of having four instances being definable logically). Paraphrasing, in other words, yields the following "better" representation of its logical structure:

(Jb) The concept *moon of Jupiter* is instantiated fourfold.

Here the temptation to construe "four" as part of an expression for a property predicated of Jupiter is "analyzed away".

What we essentially have here is contextual definition, with the unit of significance the whole proposition. (Ja) cannot be defined, that is, the proposition analyzed, by assigning meanings to each of its component parts ("Jupiter", "has", "four", and "moon"), but only as a whole, by paraphrasing it into another proposition. This strategy had been adopted explicitly by Frege in offering contextual definitions of terms for abstract objects such as numbers and directions. Recall (Na) and (Nb):

(Na) The concept *F* is equinumerous to the concept *G*.
(Nb) The number of *F*s is identical with the number of *G*s.

According to Frege, (Nb) can be defined by means of (Na), which can itself be defined purely logically (since it involves one—one correlation). (Na) and (Nb) have different forms, but the process of contextual definition is justified by their being logically equivalent—by their having the same "content", in Frege's early terminology.

So what made Russell's theory of descriptions so revolutionary? The answer is that Russell used contextual definition in an *eliminativist* strategy which was quite alien to Frege's metaphysical outlook. According to Russell, definite descriptions do not themselves have meaning: they have to be "analyzed away" in explaining the meaning of propositions involving them. For Frege, on the other hand, if definite descriptions (such as "the number of *F*s") are used in a proposition that has meaning (a sense and a truth-value), then they must themselves have meaning (a sense and a *Bedeutung*). For Frege, numbers do exist: in his early terminology, they are part of the "content" that propositions such as (Na) and (Nb) share; in his later terminology, they are the *Bedeutungen* of number terms legitimately used in propositions that have a truth-value. (Na) was never seen as offering a way of "analyzing away" number terms. Despite his introduction of contextual definition, Frege remained a realist about abstract objects.[23]

[23] It was Frege's realism about abstract objects, which were seen as objects on exactly the same level as other objects, that gave rise to the contradiction that eventually proved fatal to Frege's logicist project. But I will not pursue this here. For discussion, see Beaney 1996, §7.2; 2005a, §5.

The significance of the theory of descriptions for Russell was that it allowed him to preserve his principle that every proposition must contain entities with which we are directly acquainted in understanding the proposition *without* opening up the gap between what a proposition contains and what it is about that the theory of denoting concepts had opened up.[24] If it looked as if a proposition contained entities that either are not known to exist or are known not to exist, then that proposition needed to be analyzed into its "correct" logical form to make clear its real ontological commitments. In the case of (Ka), for example, analysis into (Kb) shows it to involve commitment to the relevant logical constants and the two concepts represented by "is king of France" and "is bald" (which may themselves require further analysis into simpler concepts). We do not have to be acquainted with some actual or subsistent king of France in order to grasp the proposition; it is enough here that we know what it would be for something to be king of France.

Of course, Russell has made use of function-argument analysis in arguing that (Ka) has the underlying quantificational structure exhibited explicitly by (Kb) and (Kc). But unlike Frege, who would have seen (Ka) and (Kb)—if he had recognized this form of analysis—as equally representing the content that they have in common, Russell saw one of the propositions as having a privileged metaphysical status.[25] In this way he combined the two forms of analysis, function-argument analysis being used in paraphrasing (Ka) as (Kb) at the first stage of analysis, and decompositional analysis then employed (or ultimately to be employed) in revealing the real constituents of the proposition. In the theory of descriptions, in other words, the two forms of logical analysis were used by Russell in the context of a metaphysics that was radically different from Frege's.

4. THE EARLY WITTGENSTEIN

Frege and Russell were the two major influences on Wittgenstein in his early work. From Frege Wittgenstein inherited the assumptions that logic was essentially Fregean logic and that function-argument analysis held the key to the analysis of propositions (see 1922, 3.318, 5.47).[26] From Russell Wittgenstein derived his concern with the nature of the proposition and the relationship between language, thought and the world, and saw in the theory of descriptions a model of analysis, which motivated the logical atomism that was articulated in the *Tractatus*.[27]

[24] For an excellent account of this, see Hylton 2003.

[25] For an account of the actual differences between Frege and Russell on definite descriptions, see Beaney 2003, 165–167; Linsky and Pelletier 2005. For more on the differences between Frege's and Russell's conceptions of analysis, see Beaney 2007c, §2; Hylton 2005b; Levine 2002.

[26] In this section, unless otherwise indicated, all further references to Wittgenstein's *Tractatus* (1922) are simply to the relevant proposition(s), e.g., 3.318 (that is, omitting "1922" each time).

[27] This and the next eight paragraphs have been drawn, in a slightly revised form, from Beaney 2006.

The most significant difference between Wittgenstein, on the one hand, and Frege and Russell, on the other hand, lay in their view of the relationship between logic and language. According to Frege and Russell, ordinary language was logically deficient in various ways, and at least for scientific purposes, it needed to be replaced by a logical language. In his introduction to the *Tractatus*, Russell suggested that Wittgenstein shared this view: "Mr Wittgenstein is concerned with the conditions for a logically perfect language—not that any language is logically perfect, or that we believe ourselves capable, here and now, of constructing a logically perfect language, but that the whole function of language is to have meaning, and it only fulfils this function in proportion as it approaches to the ideal language which we postulate" (1922, x). But this misrepresents Wittgenstein's position. According to Wittgenstein, "all the propositions of our everyday language, just as they stand, are in perfect logical order" (5.5563). He was indeed concerned with the conditions for a logically perfect language, but these were at the same time the conditions for our ordinary language to express the senses it does.

It is true that Wittgenstein also said that "All philosophy is 'critique of language'" (4.0031). But there is no inconsistency here. What Wittgenstein objected to was the fact that the same word can signify in different ways and so belong to different "symbols", as he put it (3.323). It is this that he held responsible for many of the confusions in philosophy (3.324). To avoid such errors, he wrote, "we must make use of a sign-language that excludes them by not using the same sign for different symbols and by not using in a superficially similar way signs that have different modes of signification: that is to say, a sign-language that is governed by *logical* grammar—by logical syntax" (3.325). What Wittgenstein was advocating, then, was not an ideal language but an ideal *notation*—a notation that made clear the logical form of every proposition.

This indicates why Wittgenstein was so impressed by Russell's theory of descriptions. After remarking that all philosophy is "critique of language", Wittgenstein goes on: "It was Russell who performed the service of showing that the apparent logical form of a proposition need not be its real one" (4.0031). What is inadequate about ordinary language is its surface grammatical form, not its underlying logical form, and it was the task of philosophy to reveal the logical form of propositions. This opens up the possibility of a whole programme of analysis, recasting the propositions of a given domain into their correct logical form. As noted above, Frege had first suggested such a programme in offering his logicist analysis of number statements, and Russell showed how logical analysis might be extended in developing his theory of descriptions. But it was Wittgenstein who radically generalized the idea to encompass the whole of language. Any proposition, if it has sense, according to Wittgenstein, must be analyzable—at least in principle—to reveal its underlying logical form. Ordinary language is indeed misleading, since the underlying logical form of a given proposition cannot simply be read off from its surface grammatical form.

Even a proposition as apparently simple as a proposition of the form "The *F* is *G*" has a hidden complexity. In fact, on the Russellian analysis, it is a conjunction of three simpler propositions, of the form "There is at least one *F*", "There is at most one *F*", and "Whatever is *F* is *G*". This suggested to Wittgenstein that any complex proposition could be uniquely analyzed into simpler propositions, the most basic of which he called "elementary propositions".

How do we know when we have reached the elementary propositions and uncovered the logical form of a proposition? Wittgenstein gave no examples of a completely analyzed proposition. But he did think that he could specify the essential characteristics of logical analysis and elementary propositions and draw conclusions about what the world must be like for these characteristics to obtain. As mentioned above, Wittgenstein saw all propositions as analyzable in function-argument terms: "Like Frege and Russell I construe a proposition as a function of the expressions contained in it" (3.318). He regarded complex propositions as functions (more specifically, truth-functions) of elementary propositions, and elementary propositions as functions of names. These elementary propositions, he argued, must be logically independent of one another, since if they were not, and one proposition, say, could be deduced from another, then the latter would possess an internal complexity requiring further analysis (see 4.211, 5.13, 5.134). Wittgenstein also drew metaphysical conclusions from his views on logical analysis. One of the most striking of these was his doctrine that there must be simple objects. Take any elementary proposition, regarded as a function of a certain set of names. If any of these names fail to denote, then according to Russell's theory of descriptions, they must be treated as definite descriptions and "analyzed away". But this would mean that the proposition is not, after all, elementary. So in any elementary proposition, all names must denote and the objects they denote must necessarily exist.

This is a good example of what Wittgenstein meant when he wrote, in his *Notebooks* in 1916, that "My work has extended from the foundations of logic to the nature of the world" (1979, 79). The claim that there are necessarily existing simple objects is a key thesis of his logical atomism, which can be seen as motivated by generalizing the programme of logical analysis instigated by Frege and Russell and thinking through its metaphysical presuppositions (under certain assumptions). The main theses of his logical atomism can be summarized as follows:

(A) Every genuine proposition is uniquely and completely analyzable into, that is, is a truth-function of, elementary propositions. (See 3.25, 4.221, 5, 5.3.)
(B) Each elementary proposition is a function of names. (See 4.22, 4.221, 4.24.)
(C) Each simple name denotes a simple object, which is its meaning (*Bedeutung*). (See 3.203, 3.22.)

These three theses, however, are only part of the conception that lies at the heart of the *Tractatus*—Wittgenstein's so-called picture theory of language. The other part is what Wittgenstein called in his *Notebooks* his "theory of logical portrayal" (see 1979, 15).[28] Central to this theory is the idea that (genuine) propositions are pictures (*Bilder*) that depict a possible state of affairs (see 4.01), the state of affairs depicted being the sense of a proposition. The inspiration for the picture theory apparently came from a model that was used in a Paris law court to represent a motor car accident, although Wittgenstein was also influenced by Hertz's conception of *Bilder* in science.[29]

Wittgenstein explains what he sees as the essential properties of pictures from 2.1 to 2.225 of the *Tractatus*, and elaborates on the idea of propositions being pictures from 4.01 to 4.125. The key theses of his theory of logical portrayal can be stated as follows:

(D) A picture presents a possible state of affairs, which is its sense (*Sinn*). (See 2.11, 2.201, 2.202, 2.221, 4.021, 4.022, 4.031, 4.1.)

(E) A picture is composite, and its elements are correlated with the objects of reality that they represent. (See 2.13, 2.131, 2.1514, 4.032, 4.04.)

(F) A picture is a fact. It is the fact that the elements of a picture are related in a determinate way that represents how things in the world are related. (See 2.141, 2.15, 4.0311.)

(G) A picture has both form and structure, its structure being the connection of its elements, and its form being the possibility of this structure. (See 2.15, 2.033.) What it has in common with the reality it represents is "pictorial form" (2.151, 2.17) or "logical form" (2.18), which is what allows it to depict the world. (See 2.16, 2.161, 2.17, 2.18, 4.12.)

(H) A picture is true if it agrees with reality, false if it does not. (See 2.21, 2.222, 4.06.)

(I) What a picture represents it does so independently of its truth or falsity. (2.22; see 4.061.)

(J) In order to tell whether a picture is true or false we must compare it with reality. (2.223; see 4.05.)

(K) No picture is true a priori. (See 2.224, 2.225, 3.04, 3.05, 4.463, 4.464, 6.113.)

(L) There is an internal relation between a picture and the possible state of affairs that it represents. (See 4.014, 4.023.)

(M) The logical form that a picture and what it represents have in common, and the internal relation that holds between them, can only be shown. (See 4.12, 4.121, 4.122, 4.124, 4.125.)

[28] Some commentators, e.g., Kenny (1973, ch. 4) have seen the picture theory as comprising *only* the theory of logical portrayal. But the theses of logical atomism are essential to the overall conception, so it seems right to include these as well. See Hacker 1981, §§ 3–4.

[29] The *Notebooks* (1979, 7) record the moment when the seed of the picture theory was sown. On Hertz's influence on Wittgenstein, see, e.g., Janik 1994–95.

Many of the numbered remarks in the *Tractatus* that set out Wittgenstein's picture theory may need detailed clarification, but the conception of a proposition that emerges from them is clear enough in outline. According to Wittgenstein, language is the totality of propositions (see 4.001), and every proposition can be shown, through analysis, to be a function of elementary propositions, each of which pictures a possible state of affairs, which constitutes its sense, and makes contact with reality at the level of its constituent names, whose meanings are the simple objects they denote. On Wittgenstein's view, then, there are both simple objects, which make up the substance of the world (see 2.021), and states of affairs, which are combinations of objects (see 2.01). The obtaining of a state of affairs Wittgenstein calls a "fact" (see 2), the totality of facts comprising the world (see 1.1).

What are simple objects, and how do they combine into states of affairs? Wittgenstein gave no examples of simple objects: their existence was merely seen as a necessary condition of language functioning in the way conceived in the *Tractatus*. As to their combination in states of affairs, Wittgenstein remarks that they "hang together in one another like the links of a chain" (2.03). What did he mean by this? The metaphor suggests a different view of combination than that suggested by Frege's talk of "saturated" objects and "unsaturated" functions. So is he closer to a Russellian view?

One way of approaching the issue is by returning to the case of relational propositions. As we have seen, for Frege, a sentence such as "*a* is lighter than *b*" has the same content (sense, in his later terminology) as "*b* is heavier than *a*". According to Russell, on the other hand, at least at the time of the *Principles*, the two sentences represent different propositions, since two different relations are involved. Such a view made sense in the context of Russell's early work, when he believed in the reality of both relations (in opposition to the British idealists) and propositions, propositions being understood as composed quite literally of the relevant objects and relations.

In 1910, however, Russell moved from a metaphysics of propositions to a metaphysics of facts, the main reason being the difficulty that his early view had in accounting for false propositions.[30] On the new view, with talk of propositions shifting to talk of sentences, sentences are true or false depending on whether the corresponding fact obtains or not. But what are we now to say in the case of the two sentences "*a* is lighter than *b*" and "*b* is heavier than *a*"? If true, do these correspond to different facts or to the same fact? Since one is true if and only if the other is true—in other words, whatever it is that makes one true makes the other true—it is natural to think of them corresponding to the same fact. But then we are back with the question raised earlier. If facts are themselves composed of the relevant objects and relations, does one

[30] On this shift, see Ricketts 1996, §2; 2002, §2. I am indebted to these two papers in the account that follows.

and the same fact involve both the relation *is lighter than* and the converse relation *is heavier than*?

The problem of relations was one of the key issues that occupied Wittgenstein as he thought his way through to the ideas of the *Tractatus*, his dissatisfaction with Russell's account being a crucial motivation. Russell himself altered his views on the matter several times in the period after 1910, partly in response to criticisms that Wittgenstein made after he came to Cambridge in 1911 to study with Russell. In 1912 Russell held that the two sentences did indeed represent different facts, but in 1913 he changed his mind, almost certainly prompted by his discussions with Wittgenstein.[31] Wittgenstein's views, in turn, though, were influenced by a meeting that Wittgenstein himself had had with Frege in December 1912, when he visited Frege on his way home to Vienna for Christmas. In a letter to Russell dated January 16, 1913, Wittgenstein writes:

> I have changed my views on "atomic" complexes: I now think that qualities, relations (like love) etc. are all copulae! That means I for instance analyse a subject-predicate proposition, say, "Socrates is human" into "Socrates" and "something is human", (which I think is not complex). The reason for this is a very fundamental one. I think that there cannot be different Types of things! In other words whatever can be symbolized by a simple proper name must belong to one type. And further: every theory of types must be rendered superfluous by a proper theory of symbolism: For instance if I analyse the proposition Socrates is mortal into Socrates, mortality and $(\exists x,y) \in_1 (x,y)$ I want a theory of types to tell me that "mortality is Socrates" is nonsensical, because if I treat "mortality" as a proper name (as I did) there is nothing to prevent me to make the substitution the wrong way round. *But* if I analyse (as I do now) into Socrates and $(\exists x).x$ is mortal or generally into x and $(\exists x)\ \phi x$ it becomes impossible to substitute the wrong way round because the two symbols are now of a different *kind* themselves. What I am *most* certain of is not however the correctness of my present way of analysis, but of the fact that all theory of types must be done away with by a theory of symbolism showing that what seem to be *different kinds of things* are symbolized by different kinds of symbols which *cannot* possibly be substituted in one another's places. I hope I have made this fairly clear!
>
> Propositions which I formerly wrote $\in_2 (a,R,b)$ I now write R(a,b) and analyse them into a,b and $(\exists x,y)R(x,y)$ [with $(\exists x,y)R(x,y)$ marked in the text as "not complex"] (Wittgenstein 1979, 121–2)

[31] See Ricketts 1996, 69. Where I differ from Ricketts is in seeing Wittgenstein as directly influenced by Frege on the issue.

This marks a key point in the development of Wittgenstein's philosophy. For it suggests that, on the issue of the ontological status of concepts and relations, he has moved from an inherited Russellian view to a broadly Fregean one. Concept words and relation terms are no longer regarded as standing for properties and relations, respectively, in the way that names stand for objects. "Socrates is mortal", for example, is to be analyzed not into "Socrates", "mortality", and the copula or some logical form (as Russell had thought), but just into "Socrates" and some other expression (to talk at the level of language). On Frege's view, this other expression is "( ) is mortal", representing the relevant concept, understood as "unsaturated". Wittgenstein's view is clearly similar (though he has "(∃x).x is mortal" rather than "( ) is mortal"), and he applies the same idea to the case of relational propositions.

This letter also marks the emergence of Wittgenstein's idea of *showing*, and its use in articulating his dissatisfaction with Russell's theory of types. According to Wittgenstein, what Russell tries to say in distinguishing different types of things (such as objects and classes of objects) can only be *shown* in an appropriate symbolism. In this respect, it is worth noting that in Frege's Begriffsschrift, the distinction between objects and functions (such as concepts and relations) can indeed be regarded as only *shown* in the difference between "saturated" and "unsaturated" expressions. On Frege's view, as soon as we attempt to say something about concepts, such as "The concept *horse* is a concept [that is, is not an object]", we find ourselves using a term—"the concept *horse*"—that can only denote (if anything) an object, not a concept: "the concept *horse*" lacks the "unsaturated" character of "( ) is a horse", and we have failed to reflect the predicative nature of the concept. In Frege's symbolism, there is no way of formalizing "No concept is an object"; but *that* there is a distinction between objects and concepts is *shown* by the way the symbolism itself works.[32]

The letter, however, does not indicate what Wittgenstein now thought on the question of whether such propositions as "*a* is lighter than *b*" and "*b* is heavier than *a*" have the same sense, or represent the same fact. But if he had recently talked to Frege about such issues (about what he called the "complex-problem"; see 1979, 121), then he would certainly have realized that Frege held that they express the same thought, and if true, state the same fact (since facts are true thoughts, on Frege's later view), the two different propositions merely reflecting two alternative function-argument analyses. But whatever the actual course of Wittgenstein's thinking in the immediate aftermath of his meeting with Frege, by May 1913 both Wittgenstein and Russell held that they do represent the same fact. In his *Theory of Knowledge* of 1913, Russell writes:

[32] On the so-called paradox of the concept *horse*, see Frege 1892b. On the influence of Frege on Wittgenstein's distinction between saying and showing, see Geach 1976; Diamond 1984, 2010; Conant 2002.

> In a dual complex, there is no essential order as between the terms. The order is introduced by the words or symbols used in naming the complex, and does not exist in the complex itself. . . . We must therefore explain the sense of a relation without assuming that a relation and its converse are distinct entities. (1984, 87)

On Russell's new view, asymmetric relation terms such as "is lighter than" and "is heavier than" represent the same relation, the difference merely being an artefact of our language.

But how are we then to explain the relationship between the statements we make and the facts? What account do we give, in other words, of true judgment? On Russell's view prior to 1910, to judge truly that, say, *a* is lighter than *b* is simply to stand in the dyadic (ordered) relation of judging to the *proposition* that *a* is lighter than *b*, a proposition composed of *a*, *b*, and the relation *is lighter than*, and which happens to have the property, not further analyzable, of being true. But in shifting from a metaphysics of propositions to a metaphysics of facts, the issue becomes more complex, and Russell attempts to deal with this by developing his so-called multiple relation theory. On this theory, in its initial form, to judge truly that *a* is lighter than *b* is for a subject *S* (and more specifically, their mind) to stand in a tetradic (ordered) relation of judging to *a*, *b*, and the relation *is lighter than*. This tetradic ordered relation might be represented as "*J* (*S*, *a*, *R*, *b*)", and the judgment is true if the relevant judgment-complex (fact) obtains.[33] In the *Theory of Knowledge* of 1913, however, Russell abandons the idea of relations themselves being intrinsically ordered. So what account does he now give?

Russell's account is complicated, but essentially he tries to reduce judgments involving ordered, or what he calls "permutative", relations to judgments involving non-permutative relations. To judge that *a* is lighter than *b* is to assert the existence of a complex that does not itself involve any ordered relations. Instead, Russell appeals to the *forms* that complexes have. He writes:

> the form of all dual complexes will be the fact "something has some relation to something". The logical nature of this fact is very peculiar . . . [containing] no constituent at all. . . . In a sense, it is simple, since it cannot be analysed. At first sight, it seems to have a structure, and therefore not to be simple; but it is more correct to say that it is a structure. Language is not well adapted to speaking of such objects. (1984, 114)

The form of a dual complex, as Russell conceives it, might be represented as "(∃x,y,R) xRy" (see 1984, ibid.); and it is to this notation that Wittgenstein is alluding in his letter to Russell quoted above. However, it is hard to see how such a form can be regarded as unstructured, and even if it counts as itself a "structure", we are still left in the dark as to how it "combines" with the other constituents to compose a complex fact. We could deny that it can be

[33] See Russell 1912, ch. 12.

properly represented at all, but this makes its role even more mysterious. As Russell recognizes, such a view seems to come at a price: that of not being able to speak of such objects.[34]

Shortly after proposing this view, however, Russell abandoned further work on his *Theory of Knowledge* manuscript, as a direct result of criticisms that Wittgenstein made.[35] These criticisms can be found in notes that Wittgenstein dictated in October 1913 (1979, App. 1). Here is what Wittgenstein says in his opening summary:

> When we say A judges that etc., then we have to mention a whole proposition which A judges. It will not do either to mention only its constituents, or its constituents and form, but not in the proper order. This shows that a proposition itself must occur in the statement that it is judged. (1979, 94)

This suggests that it is Wittgenstein's central objection to Russell's theory of types—as first articulated in the letter quoted above—that underlies his criticisms of Russell's theory of judgment. On Wittgenstein's view, Russell's theory of judgment does not rule out judging nonsense. As he goes on to say, "Every right theory of judgment must make it impossible for me to judge that this table penholders the book. Russell's theory does not satisfy this requirement" (1979, 103; see 1922, 5.5422). In doing away with propositions and trying to reduce everything to unanalyzable constituents of facts, while at the same time trying to respect equivalences such as that between "*a* is lighter than *b*" and "*b* is heavier than *a*", Russell has ended up in a morass. If the unanalyzable "form" to which Russell appeals is not itself structured in such a way as to accommodate the "right" kind of objects (on something like the model of Frege's conception of the "unsaturatedness" of functions), then it is hard to see how he can distinguish sense from nonsense, that is, legitimate combinations from illegitimate ones.

So how does Wittgenstein deal with the problem of relational propositions? His answer first emerges in the same "Notes on Logic" of 1913:

> In "aRb" it is not the complex that symbolises but the fact that the symbol "a" stands in a certain relation to the symbol "b". Thus facts are symbolised by facts, or more correctly: that a certain thing is the case in the symbol says that a certain thing is the case in the world. (1979, 96)
>
> *Not*: "The complex sign 'aRb'" says that *a* stands in the relation R to *b*; but *that* 'a' stands in a certain relation to 'b' says *that* aRb. (1979, 106; see 1922, 3.1432)

[34] Given Russell's own earlier criticism (1903, App. A) of Frege's view concerning our inability to speak of ("unsaturated") concepts, there is an obvious irony here.

[35] What Russell had written of the *Theory of Knowledge* was only published posthumously in 1984. For the first statement of Wittgenstein's objection to Russell's theory of judgment, see his letter to Russell of June 1913 (1979, 122). For discussion of Wittgenstein's criticisms, see Hylton 1990, 357–61; Ricketts 1996, §3; 2002, §§ 2–3; Stevens 2005; Carey 2007 (which I review in Beaney 2009b).

What is central to Wittgenstein's answer is the idea that propositions themselves are facts (see 1979, 97), as reflected in thesis (F) above. It is the fact that words are related in a certain way in a proposition that symbolizes, not the mere representing of the constituents of facts by the corresponding constituents of the proposition. (Indeed, we might say that it is the fact that words are *used* in a certain way that symbolizes; it is then just a short step from this to Wittgenstein's later idea that it is the *use* of words that symbolizes, that is, that has meaning [see 1953, §43]. There is more continuity in Wittgenstein's philosophy than is often recognized.)

Russell's problems about what relation terms represent thus dissolve, on Wittgenstein's account, since unlike names, relation terms do not represent at all. It is the *relating* of names through a relation term that represents the relation between the corresponding objects. As Wittgenstein puts it, "Symbols are not what they seem to be. In 'aRb', 'R' looks like a substantive, but is not one. What symbolizes in '*a*R*b*' is that R occurs between *a* and *b*" (1979, 98). Furthermore, if relations are not themselves "real", in the sense of being entities denoted by relation terms, then the problem of whether a relation and its converse are the same or not, or are both somehow constituents of the same fact, also disappears. Two objects may be related in a certain way, and this can be variously symbolized, just as one and the same thing can be pictured in different ways—this was part of the attraction of Wittgenstein's conception of propositions as pictures. The difference in weight of two objects *a* and *b* can be expressed by saying either that *a* is lighter than *b*, for example, or that *b* is heavier than *a*. What makes both propositions capable of representing the same fact are the relevant representational relations—the rules that govern the pictorial correlation of the propositional fact with the fact represented.

On Wittgenstein's account, then, the objects that are combined in a state of affairs, the obtaining of which constitutes a fact, might indeed be regarded as "hanging together in one another like the links of a chain" (see 2.03). They are related, but not in such a way that the relations themselves count as constituents of the fact. So Wittgenstein's early metaphysics is different from both Frege's and Russell's, although it was influenced by both. As far as the problem of relations is concerned, Wittgenstein's own account was inspired by Frege's conception of the unsaturatedness of functions, but was motivated, in particular, by thinking through the implications of Russell's changing views, and attempting to find a way out of the difficulties that those views faced.

5. THE STATUS OF METAPHYSICAL PROPOSITIONS

If the accounts in the preceding four sections of the views of Frege, Moore, Russell, and Wittgenstein are accurate, then it would seem that metaphysical conceptions infuse their philosophies. In his early work, Frege construed the "content" of a proposition as the "circumstance" it represents; and in his later work he insisted on the ontological

distinction between objects and functions (of which concepts were a special kind), and was led to construe the two truth-values, the True and the False, as objects. Characteristic of both Moore's and Russell's early work is a metaphysics of propositions, according to which propositions are quite literally composed of the relevant objects, concepts and relations, taken as "real". In his later work Russell moved to a metaphysics of facts, and his multiple relation theory was an attempt to develop a theory of judgment on this basis. In Wittgenstein's *Tractatus*, too, there are many claims that seem thoroughly metaphysical, outlining his conception of facts and states of affairs, for example, and asserting the necessary existence of simple objects.

Over the last decade or so, however, there has been a great deal of debate about the status of the metaphysical statements that Frege and Wittgenstein, in particular, make. A "new reading" of Frege's and Wittgenstein's work has been developed according to which such statements are not to be taken at face value: strictly speaking, they are nonsense, and explicitly recognized as such by Frege and Wittgenstein.[36] Their aim is not to convey genuine thoughts but to offer "elucidations" of fundamental concepts or features of our logical system. The idea here can be illustrated by taking the case of Frege's distinction between concept and object. As we have seen, the distinction is central to Frege's philosophy, yet there is no way of expressing such a claim as "No concepts are objects" in Frege's Begriffsschrift. As Frege argued in "On Concept and Object" (1892b), as soon as we try to make a concept the subject of a proposition, such as in saying "The concept *horse* is a (first-level) concept", it loses its predicative or "unsaturated" character. The only expression that can be legitimately inserted into the argument-place in "( ) is a (first-level) concept" is a proper name, that is, a name of an object.

An obvious response to this problem is to make use of Wittgenstein's distinction between saying and showing, and to suggest that while we cannot *say* that no concepts are objects, or that the concept *horse* is a concept, what we intend can be *shown*. Certainly, there are good grounds for seeing Wittgenstein's distinction between saying and showing as inspired by Frege's discussion of the problems he acknowledges he faces in trying to articulate the distinction between concept and object. Frege emphasizes that no definitions of "concept" and "object" are possible, since what we have here are two of the most fundamental concepts of all. He writes: "There is nothing for it but to lead the reader or hearer, by means of hints, to understand the words as is intended" (1892b, 193/1997, 182). In his later work, he talks of "elucidation" (*Erläuterung*) being required to explain the meaning (*Sinn* and *Bedeutung*) of all those primitive terms that cannot themselves be defined.[37]

[36] See especially Diamond 1991b, 1991c; Conant 2002. For criticism of this "new reading", see Hacker 2000, 2003. See also Goldfarb 1997; McGinn 1999, 2006.

[37] See Frege 1997, 313–314.

In the *Tractatus*, Wittgenstein also talks of "elucidation" in this Fregean sense (see 3.262). But he also suggests, at the very end of the *Tractatus*, that the propositions of the *Tractatus* themselves should be seen as serving to "elucidate" in the following way: "anyone who understands me eventually recognizes them as nonsensical, when he has used them—as steps—to climb up beyond them. (He must, so to speak, throw away the ladder after he has climbed up it.)" (6.54) The interpretation of these remarks has been at the centre of the recent debate about Wittgenstein's early view of metaphysics. Cora Diamond and James Conant, for example, have argued that we should take these remarks seriously, and not "chicken out" by attempting to distinguish—as Peter Hacker has done—between misleading nonsense and illuminating nonsense.[38] Nonsense is nonsense, and the history of nonsense is equally nonsense.

The "new reading" that has been developed by Diamond and Conant, among others, offers a challenge to traditional readings of the *Tractatus* according to which Wittgenstein did indeed make metaphysical pronouncements, even if he came to recognize their problematic status and attempt to cancel their implications at the end of the work. This is not the place to enter the interpretive debate. But there has been a tendency among "new readers", I think, to attribute to Wittgenstein far more subtle motivations and sophisticated uses of irony and deconstructive techniques than either the text supports or the seriousness of Wittgenstein's character justifies. In his *Notebooks*, we see Wittgenstein determined to resolve the problems that occupy him, and his writings are full of metaphysical statements. As quoted above, Wittgenstein himself remarks at one point (in August 1916), "My work has extended from the foundations of logic to the nature of the world" (1979, 79). I detect no tongue-in-cheek irony here.

Wittgenstein's characterization of the propositions that eventually found their way into the *Tractatus* as nonsense occurs relatively late in the evolution of his early philosophy. The *Tractatus* should itself be seen, I think, as a work in transition, despite the framing provided by his preface and final remarks. It was only later—after 1929—that he began properly to free himself from the metaphysical outlook that permeates the *Tractatus*. But even then, rather than rejecting his earlier metaphysical pronouncements as outright nonsense (nonsense and nothing but nonsense), he sees them as misguided attempts to express grammatical rules.[39] A proposition such as "No concepts are objects" reflects a fundamental distinction of grammatical category. The proposition may not be formalizable in Frege's Begriffsschrift, but that need only show the limits of Frege's logical system—or indeed, of formalization itself. Formalization is

[38] See, e.g., Hacker 1986, 18. On "chickening out", see, e.g., Diamond 1991b.

[39] For an example of this, concerning the shift from the metaphysical claim in the *Tractatus* that simple objects necessarily exist to Wittgenstein's later recognition of the "grammatical" role that *samples* play in our language-games, see Beaney 2006.

a sophisticated cognitive activity that presupposes a great deal of stage setting, presuppositions that cannot themselves be formulated within the relevant logical system.

Clearly, propositions such as "No concepts are objects" do not picture a possible state of affairs, in Wittgenstein's early terminology. Of course, even if we liberate ourselves from the restrictive conception of sense articulated in the *Tractatus*, we might still insist that, strictly speaking, it is nonsense. However, such propositions may nevertheless play a role in a complex dialectical process of thought—as telegraphic encapsulations of a whole chain of interconnected considerations and arguments that either have just been worked through or else are about to be worked through. Characterizing something as nonsense makes sense only as one move in the relevant process of elucidation, and it can never be a substitute for the complex forms of thinking that constitute philosophizing. Kicking away the ladder once one is at the top is all very well, but climbing the ladder of metaphysics in the first place may be very hard work. I have only tried to fit together a few of the rungs in the present essay, but I hope they are sturdy enough to provide the kind of exercise needed to attain a healthy philosophical perspective.[40]

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13

LOGIC, MODALITY, AND METAPHYSICS IN EARLY ANALYTIC PHILOSOPHY
C. I. LEWIS AGAINST RUSSELL

Sanford Shieh

There is no doubt that metaphysics is a well-established and indeed central part of contemporary philosophy. That this is so in the recent manifestations of the analytic tradition raises a number of interesting historical and philosophical questions. This tradition, from the 1930s through the 1950s, was strongly anti-metaphysical in orientation. In this period, two movements held sway over analytic philosophy: logical positivism or empiricism, one of whose main figures, Rudolf Carnap, called for the "Überwindung der Metaphysik,"[1] and what is often called "ordinary-language philosophy," one of whose main proponents, J. L. Austin, inveighed against "the wile of the metaphysician."[2] Even nowadays it is perhaps not entirely inaccurate to say that outside professional analytic philosophy, this anti-metaphysical image is still associated with analytic philosophy.

The question then is, how did metaphysics become rehabilitated in analytic philosophy? A seemingly simple question. But once one begins to examine the history of this tradition, one realizes that this question hides a great deal of complexity. Broadly speaking, there are two main sources of complication. On one hand, before positivism and ordinary-language philosophy, metaphysics was hardly rejected in analytic philosophy; in particular, both Frege and Russell, who are widely acknowledged as founders of the analytic tradition, or at least the main influences at its inception, not only were interested in metaphysical issues but also developed and held striking metaphysical positions. On the other hand, the analytic metaphysics that reemerged in the second half of the last century is not a unitary undertaking. At the very least, one should distinguish between metaphysics that is Quinean in inspiration and metaphysics that either treats or takes as an unquestioned philosophical tool the alethic and other modalities.

[1] Carnap 1932.
[2] Austin 1990, 87.

Fortunately for the prospects of a philosophical history of analytic metaphysics, metaphysics in all its manifestations in analytic philosophy has been closely connected to logic—as, indeed, metaphysics was at its Aristotelian origins. One might therefore impose a rough-and-ready set of divisions on the history of analytic metaphysics in terms of how the relation between logic and metaphysics is conceived. Two salient examples of such a categorization are Frege and Quine. Frege can be read as holding that ontology is ultimately reducible to logic.[3] For instance, what it is for some entity to be a concept is for it to be the *Bedeutung* of an expression occurring in sentences that figure in certain valid patterns of inference—principally higher-order quantificational instantiation and mutual intersubstitution based on statements of co-extensionality. There is, ultimately, no more to the ontological category of concepthood than the logical category determined by these patterns of inference.[4]

Quine's way with ontological questions is rather better known and its interpretation less controversial; it is expressed by the slogan "To be is to be the value of a variable."[5] More fully explained, Quine's view is that ontological questions are to be investigated by examining, in a background theory to be sure, the range of the first-order quantifiers in the regimented discourse of science or of the proto-science that is philosophy. First-order quantification is, of course, the place where logic makes its appearance in this account of ontology. But regimentation requires a role for logic as well, since it is a part of regimentation to account for patterns of argument pre-theoretically taken to be valid.[6] In effect Quine's view comes down to the claim that ontological claims are derived from a model theory for first-order logic.

Given these examples, one might go on to ask how the metaphysics of the modalities is related to logic. This is the overarching question of a work in progress from which the present essay is derived. We all know that in contemporary analytic philosophy, the metaphysics of the modalities is closely connected with modal logic; in particular, the concept of possible worlds serves simultaneously to give the semantics of modal logic and a framework for thinking about metaphysical issues. My interest here is in the historical background to the present state of modal logic and metaphysics. Specifically, my main topic is what is generally taken to be the beginnings of modern modal logic,

[3] This is not uncontroversial. The main proponents of this view are Thomas Ricketts, Warren Goldfarb, Bob Hale and Crispin Wright. See, inter alia, Ricketts 1986, Goldfarb 2001, and Hale and Wright 2003.

[4] See, for example, Frege 1892.

[5] Quine 1980, 15.

[6] See Quine 1960, §33, especially "the *maxim of shallow analysis*": "*expose no more logical structure than seems useful* for the *deduction* or other inquiry at hand" (160; last emphasis mine).

C. I. Lewis's criticisms[7] of the logic of Whitehead and Russell's *Principia Mathematica*,[8] and his development of the logic of strict implication on the basis of that criticism.

I will argue that Lewis conceives of logic and its relation to modality quite differently from the way this relation is conceived of in contemporary philosophy. The difference is sufficiently striking that one may well conclude that strict implication has nothing to do with modal logic, and so, to the extent that Lewis held any metaphysical theses about modality, these must be quite different in philosophical character from the claims of contemporary modal metaphysics.

If all this is right, a natural question to ask is: how did we get from strict implication to present-day modal logic and metaphysics? Considerations of space preclude more than a cursory sketch of an outline of this philosophical history in the final section of this essay.

1. WHAT IS MODAL LOGIC NOWADAYS?

In order to begin, we must have some account, however incomplete and provisional, of the present-day philosophical conception of modal logic. I will provide such an account by looking at two of the most widely used recent introductory textbooks in modal logic, Brian Chellas's *Modal Logic: An Introduction* (1980) and G. E. Hughes and M. J. Cresswell's *A New Introduction to Modal Logic* (1996).[9]

Both of these books describe modal logic in the first sentences of their prefaces as "the logic of necessity and possibility" (Chellas, xi; Hughes and Cresswell, ix). Chellas begins his introduction with a chapter "surveying some of the main features of the system of modal logic known as $S5$" (Chellas, 3). This survey first describes $S5$ as "determined semantically by an account of necessity and possibility that dates to . . . Leibniz: a proposition is *necessary* if it holds in all possible worlds, *possible* if it holds at some" (Chellas, 3). This account is then rephrased "linguistically: a sentence of the form $\Box$A—*necessarily* A—is true if and only if A itself is true at every possible world"

[7] The relevant writings of Lewis will be referred to by the following set of abbreviations. Note that, unless specifically noted, all emphases in citations are in the original.

IT	"Interesting Theorems in Symbolic Logic"
NA	"A New Algebra of Implications and Some Consequences"
CSI	"The Calculus of Strict Implication"
IM	"The Issues Concerning Material Implication"
SSL	*A Survey of Symbolic Logic*
SL	*Symbolic Logic*

[8] Hereafter cited in the text as *PM*.

[9] Hereafter cited in the text as Chellas, and Hughes and Cresswell.

(Chellas 1980, 4). Chellas then gives an account of "the truth conditions for sentences" "of a language of necessity and possibility" "according to their forms," "in terms of a possible world in a model" (Chellas 4–5). Chellas defines validity in terms of these truth-conditions, and writes, "In asking after the logic of necessity and possibility we seek to know which sentences are valid . . . and which are not" (Chellas, 6).

Hughes and Cresswell follow a very similar path. They first introduce the modal operator symbol *L*, which they explain as intended to "express . . . the notion which is commonly expressed by English words or phrases such as 'necessarily'" (Hughes and Cresswell, 14), and then of course also the symbol *M*, intended to express "possibly." Next, like Chellas, they specify "under what conditions propositions containing [these symbols] are to count as true or false" in terms of "conceivable states of affairs alternative to the actual one" (Hughes and Cresswell, 17). Finally they also go on to explain validity in terms of truth at "alternative possible worlds" (Hughes and Cresswell, 21).

The conception of modal logic implicit in these texts is as follows. The subject of modal logic is reasoning about the notions of necessity and possibility, that is, it is about a particular type of reasoning. Modal logic gives an explanation of the correctness and incorrectness of inferences involving these modal notions. The explanation is based on a theory of truth-conditions of sentences containing modal expressions. This theory rests on two things: first, the metaphysical analysis of modality in terms of possible worlds, and second, an analysis of the logical forms of modal sentences. An argument Π involving modal notions is valid, on this explanation, just in case whenever the truth-conditions of any set of statements with the logical forms of the premises of Π are fulfilled, the truth-condition of the corresponding statement with the logical form of the conclusion of Π is also fulfilled.

Two points stand out from this picture. First, the notion of truth-condition is central to the explanation of correct modal inference. Indeed, the explanation is not special to modal logic but is an instance of a more general contemporary semantic view of logic. A clear account of this view is given by Michael Dummett's exposition of Frege's philosophy of logic:

> Logic began with Aristotle's discovery that the validity of an argument could be characterised by its being an instance of a valid argument-schema, . . . every instance [of which] with true premisses has a true conclusion. . . . This presemantic notion of an interpretation of a schema by *replacement* was the only one that logic had to operate with until Frege. Frege supplied us for the first time with a semantics, that is to say, an analysis of the way in which a sentence is determined as true or otherwise in accordance with its composition out of its constituent words. . . .
>
> Once we have such a semantics, we can substitute for [the] notion of an interpretation by replacement that of a semantic interpretation, under which [we

> can] make a direct assignment to the schematic letters of the semantic values of expressions of the appropriate categories, bypassing the expressions themselves.[10]

The task of logic is to give an explanation of the distinction between deductively correct (that is, valid) arguments and incorrect (invalid) ones. The Aristotelian account is really only a generalized description of truth-preserving arguments. The Fregean account provides an actual explanation because it adds a theory of how the truth-values of all statements of given logical forms are determined. So now one can say that a pattern of argument is valid because of the way in which the conditions of truth of all the premises with the logical forms in question are related to the conditions of truth of all the conclusions of the corresponding logical form. Since valid argument is explained in terms of relations among truth-conditions, these conditions must have at least explanatory priority, and plausibly also conceptual priority.

Second, the first point furnishes one reason for thinking that the metaphysics of modality is indeed conceptually more fundamental than its logic. It is only given the metaphysics that we have grounds for thinking that the conditions yielded by the semantic theory of modal discourse are conditions of truth of statements about necessity and possibility. As David Lewis puts the point:

> *If* the modal operators can be correctly interpreted as quantifiers over the indices of some or other frame, restricted by the relation of that frame, *then* we have found out where to look for illumination about controversial axioms. If not, not. To apply the results, you have to incur a commitment to some substantive analysis of modality. . . .
>
> If modal operators were quantifiers over towns restricted by the relation of being connected by rail, that would validate some system or other of modal logic.—So what, since modal operators are nothing of the sort? What good is it to know which *mis*interpretations would validate a system?
>
> . . .. . .I do not just think that the indices of frames "may be regarded as" possible worlds. I think that among all the frames, there are some whose indices *are* the possible worlds. . . . So for me, the metalogical results are applicable.[11]

Another way to this conclusion is to consider that one can take the entire mathematical content of modal logic, as characterized in these introductory accounts, to consist in facts about sets of recursively defined mappings from ordered pairs of a finite sequence

[10] Dummett 1978, 118–21.

[11] Lewis 1986, 19–20.

from a finite set and a relational structure to the set {0,1}. Such facts have application to reasoning about necessity and possibility, that is, to their logic, only if there is some ground for thinking that these mappings have something to do with statements about necessity and possibility. One such ground is an appropriate metaphysics in terms of which we can interpret the relational structures and the range of these mappings as representations of the truth-conditions of modal statements.

Note that a consequence of this second point is that this contemporary view of the relation between modal logic and metaphysics is the reverse of Frege's view. Here logic depends on metaphysics, not the other way around, as in Frege.

2. WHY STRICT IMPLICATION?

No adequate account of the history of modern modal logic should fail to say something about C. I. Lewis's systems of strict implication. And so we find Lewis duly mentioned in just about every historical discussion of modal logic.[12] There are, however, relatively few detailed analyses of the philosophical motivations of Lewis's strict implication. Everyone notes the inescapable points. First, Lewis claimed that the logic of *Principia* contained what are now called "the paradoxes of material implication." These are the theorems of *Principia*, $\sim p \supset (p \supset q)$ and $p \supset (q \supset p)$, which Russell himself in *Principles of Mathematics*[13] read as "False propositions imply all propositions, and true propositions are implied by all propositions" (*PoM*, 15), and to which Lewis adds, "However irrelevant the content of p and q" (*CSI*, 242). Second, Lewis intended the notion of strict implication to be the basis of a logic that avoided these paradoxes. But there is little or no discussion of why Lewis thought that these "paradoxes" are problematic. It seems to be taken for granted that the paradoxes are problematic because they seem to ascribe properties to the relation of implication that are at odds with ordinary conceptions of implication.

The best study of Lewis's strict implication is E. M. Curley's illuminating article "The Development of Lewis's Theory of Strict Implication" (1975). Curley discerns three concerns about material implication in Lewis's early writings on strict implication, one metaphysical, two logical.

The metaphysical concern is that "any world to which material implication would apply must have a certain metaphysical character" (Curley 1975, 518), namely, in such a world there is no distinction among necessary, possible, and simple truth. But, as Curley notes, Lewis does not take this concern to be decisive:

[12] Here are a few examples: Kneale and Kneale 1984, 549 and *passim*; Lemmon 1977, 5–6; Hughes and Cresswell 1996, ch. 11; Priest 2001, 35.

[13] Hereafter cited as *PoM*.

> If we ask now whether the actual world is such a one as material implication may apply to, the answer is not self-evident. . . . We do not discover the necessity of all facts, nor the absurdity of every contrary-to-fact hypothesis. . . . One may thus maintain that the real is not the all-possible, that reality is, in some part, contingent and not necessary . . . and consequently, that the system of material implication is false as an applied logic. But an obvious reply has it that this is a generalization from our ignorance—that our belief in the contingent and the false but not absurd is due to the smallness of our ken. A decision on metaphysical grounds would thus be doubtful. (*CSI* 244)

The first logical issue is the familiar point that "the definition of implication adopted by Russell and Whitehead was very much at variance with the 'ordinary meaning' of implication" (Curley 1975, 519). Curley adds to this the consideration that although Whitehead and Russell seem not to be fully consistent, they do often write in a way suggesting that they take their definition of $\supset$ to be an analysis of the ordinary notion of implication, and so Lewis's criticisms do succeed in engaging Whitehead and Russell's philosophy of logic.

The second logical point is that material implication is not useful: "Pragmatically . . . material implication is an obviously false logic" (*CSI*, 246). On Curley's interpretation, Lewis has in mind something like the following problem about *modus ponens*, which can be formulated as the rule

> "From premises of the form $A \supset B$ and A it is permissible to infer B." Lewis thought it relevant to inquire how the first premise might be verified and it seemed to him that there were three possible ways:
>
> (i) The antecedent, A, was known to be false.
>
> (ii) The consequent, B, was known to be true.
>
> (iii) There was known to be a necessary connection between A and B.
>
> But if $A \supset B$ were asserted on the first ground, it would be impossible to proceed to B by *modus ponens* because we would not be able to assert the second premise. On the other hand, if $A \supset B$ were asserted on the second ground, there would be no point in arguing to B by *modus ponens* since B would already be known to be true. This left only the third possibility. But if $A \supset B$ were asserted on the grounds of a necessary connection between A and B, the rule actually being used would be *modus ponens* for strict implication, . . . and not *modus ponens* for material implication. (Curley 1975, 521–22)

If we take the two criticisms on logical grounds to be Lewis's main case against material implication, then a Quinean rejoinder would seem to be conclusive. Quine, famously, accuses Whitehead and Russell of confusing use and mention when they read their symbol $\supset$ as implication. As Quine puts it,

> "Implies" and "is analytic" are best viewed as general terms, to be predicated of sentences by predicative attachment to names (e.g. quotations) of sentences. In this they contrast with "not," "and," and "if-then," which are not terms but operators attachable to the sentences themselves. Whitehead and Russell, careless of the distinction between use and mention of expressions, wrote "*p* implies *q*" (in the material sense) interchangeably with "If *p* then *q*" (in the material sense).[14]

Now, this bit of philosophical grammar by Quine has seemed to many to be unconvincing. For one thing, it certainly seems that some ordinary uses of conditional statements are not simply truth-functional. Moreover, some philosophers, such as A. R. Anderson and N. D. Belnap, have argued at length that in philosophical grammar "implies" can legitimately function as an object-language relational expression.[15]

But of course Quine's point about use-mention confusion isn't—or, less tendentiously put, needn't be—Quine's main criticism. We should not be taken in by surface aspects of Quine's rhetoric and miss his deeper point, which I take to be this. Ever since Gödel and Tarski, there has been a metalinguistic, semantic definition of implication: a statement *A* implies a statement *B* just in case every interpretation in which the logical form of *A* is true is also one in which the corresponding logical form of *B* is true. This notion of implication does not have the consequence that any false statement implies every statement and that every true statement is implied by every statement. So, to the extent that Whitehead, Russell, and Lewis are trying to capture the ordinary notion of implication, this metalinguistic concept of implication is sufficient, and there is no need to introduce a new object-language symbol. Of course, the semantic definition of logical consequence does entail that a logically false statement, one whose logical form has no true interpretation, implies every statement, and a logically true statement is implied by every statement. But Lewis has no grounds for complaint on this score, since he himself accepts the "paradoxes of strict implication."

Moreover, this definition of implication also yields a way to respond to Lewis's charge of the uselessness of material implication. On this Quinean view, that *A* implies *B* entails that the conditional statement $A \supset B$ is (an instance of a) valid (logical form). So Lewis's point can be taken care of by the claim that *modus ponens* is useful when the conditional premise is asserted on the ground that it is valid.

Now, of course, these Quinean responses to Russell and Lewis are anachronistic. When Russell and Lewis wrote, the object-language/metalanguage distinction had not yet been made precise by Tarski, and so the metalinguistic notion of implication was not yet available. However, it's not clear that the Quinean notion of implication

[14] Quine 1960, 196.

[15] See Anderson and Belnap 1975.

needs to involve the distinction. There's no reason to think that the notion of logical form has to be explained in terms of schemata, that is, of linguistic entities. Russell certainly has no nominalistic scruples to militate against construing logical form in terms of variables and logical constants. That is to say, it is not clear that there is no account of implication in terms of truth that would have been available to Russell and Lewis.

My aim, in the next two sections, is to reopen the discussion on Lewis's critique of material implication. My strategy is to reexamine Lewis's critique of Russell by first rereading Russell's view of logic in the texts that would have been available to Lewis. I hope this will provide a more historically and philosophically fruitful context in which to understand Lewis's critique. Along the way I will also reconsider whether the Quinean response just sketched is indeed conclusive.

3. RUSSELL

What is logic, according to Russell of *Principles* and *Principia*? Russell, of course, is famous for his many changes in position, and so there is no simple or single answer to even this question, which is about a fairly limited period of Russell's philosophical development. My interest here, though, is to discover what Lewis might have taken to be Russell's conception of logic, in order to understand the motivations for strict implication. So I will not attempt to give a full account of Russell's views. I will not spell out all the second thoughts and retractions that one could find in these texts or in unpublished writings, and I will ignore entirely Russell's conception of the logic of quantification and of classes and propositional functions. I will focus only on Russell's discussions of what he calls the propositional calculus, and especially on the role that the notion of implication played in that part of logic.

Let's first look at *Principles*. Russell begins the book by stating in the preface his logicist project: "The proof that all pure mathematics deals exclusively with concepts definable in terms of a very small number of fundamental logical concepts, and that all its propositions are deducible from a very small number of fundamental logical principles" (*PoM*, xv). When we turn to the first chapter, we find that Russell defines pure mathematics as "the class of all propositions of the form '*p* implies *q*,' where *p* and *q* are propositions containing one or more variables, the same in the two propositions, and neither *p* nor *q* contains any constants except logical constants" (*PoM*, 3). The notion of implication mentioned in this citation is formal implication, which Russell takes to be explainable as a class of material implications (*PoM*, 33–41). Thus the notion of material implication figures centrally in the logicist project: the task for logicism is to deduce a set of classes of material implications using definitions of logical notions by logical principles.

Let's now go to chapter II, where Russell begins his account of logic. "Symbolic or Formal Logic," Russell writes in the first sentence of this chapter, "is the study of the various general types of deduction" (*PoM*, 10). In the very next section, §12, he gives another characterization: "Symbolic Logic is essentially concerned with inference in general, and is distinguished from various special branches of mathematics mainly by its generality" (*PoM*, 11). This concern with inference in general is further specified thus: "What symbolic logic . . . investigate[s] is the general rules by which inferences are made" (*PoM*, 11). The propositional calculus, which is the first of the three parts of logic that Russell presents, "studies the relation of *implication* between propositions" (*PoM*, 14). Two further characterizations of this calculus are important for our purposes: it contains "premises" that "deal exclusively with rules of inference" (*PoM*, 15), and it "require[s] certain indemonstrable propositions," at least some of which are "principles of inference" (*PoM*, 16).

All this suggests that Russell thought of the axioms of his formulation of logic as the most generally applicable rules of inference, which in addition are in some way connected to the relation of implication among propositions. This picture seems to be precisely what is articulated in part I, section A, of *Principia*, titled, "The Theory of Deduction." (This is almost word-for-word identical to the first two paragraphs of Russell's paper "The Theory of Implication" (1906), the only difference being that the latter speaks of "article" where the former speaks of "section.")

> The purpose of the present section is to set forth the first chapter of the deduction of pure mathematics from its logical foundations. This first chapter is necessarily concerned with deduction itself, i.e. with the principles by which conclusions are inferred from premisses. If it is our purpose to make all our assumptions explicit, and to effect the deduction of all our other propositions from these assumptions, it is obvious that the first assumptions we need are those that are required to make deduction possible. . . .
>
> But the subject to be treated in what follows is not quite properly described as the theory of *propositions*. It is in fact the theory of *how one proposition can be inferred from another*. Now in order that one proposition may be inferred from another, it is necessary that the two should have that relation which makes the one a consequence of the other. When a proposition q is a consequence of a proposition p, we say that p *implies* q. Thus *deduction depends upon the relation of implication*, and *every deductive system must contain among its premisses as many of the properties of implication as are necessary to legitimate the ordinary procedure of deduction*. In the present section, certain propositions concerning implication will be stated as premisses, and it will be shown that they are sufficient for all common forms of inference. (*PM* 90, "Theory of Implication," 159–60)

A perhaps naive and straightforward reading of these texts is that Russell thought of logic as follows. The axioms of logic are primitive rules of inference, which reflect or capture features of the relation of implication; the theorems are derived rules of inference. That is to say, from the perspective of contemporary logic, one might think that what Russell has in mind is a formulation of logic like Gentzen's and Prawitz's systems of natural deduction, which consist entirely of rules of inference. Moreover, it suggests that Russell does not conceive of his primitive propositions to be simply a selection of logical truths (applying to all unanalyzed propositions) from which all such logical truths can be derived.

There are, however, at least two aspects of Russell's characterization of logic that seem not to fit with this reading. First, in contemporary logic we think of rules of inference as valid or invalid rather than true or false, but Russell characterizes the principles of inference of his logic as truths. For example, in *Principles* §17 Russell writes:

> We require . . . in the propositional calculus . . . certain indemonstrable propositions, which hitherto I have not succeeded in reducing to less than ten. Some indemonstrables there must be; and some propositions such as the syllogism, must be of the number, since no demonstration is possible without them. But concerning others, it may be doubted whether they are indemonstrable or merely undemonstrated; and it should be observed that the method of supposing an axiom false, and deducing the consequences of this assumption, which has been found admirable in such cases as the axiom of parallels, is not universally available. For all our axioms are principles of deduction; and if they are *true*, the consequences which appear to follow from the employment of an opposite principle will not really follow, so that arguments from the supposition of the falsity of an axiom, are here subject to special fallacies. (*PoM*, 15)

Nowadays we take rules of inference to be statements in a metalanguage about which inferential transitions among statements of an object language are permissible and are not applicable to inferences among metalinguistic statements such as the rules themselves. But Russell takes rules of inference to be at the same time "premises" to which those very rules are applicable. For example, Russell writes in *2 of *Principia*:

> The use of a general principle of deduction, such as either form of "Syll," in a proof, is different from the use of the particular premisses to which the principle of deduction is applied. The principle of deduction gives the general rule according to which the inference is made, but is not itself a premiss in the inference. . . . Thus when a general rule is adduced in drawing an inference, as when we write "[Syll] ⊢. (1). (2). ⊃⊢. Prop," the mention of "Syll" is only required in order to remind the reader how the inference is drawn.

> The *rule of inference may, however, also occur as one of the ordinary premisses*, that is to say, in the case of "Syll" for example, *the proposition* "$p \supset q. \supset: q \supset r. \supset. p \supset r$" *may be one of those to which our rules of deduction are applied*, and it is then an ordinary premiss. The distinction between the two uses of principles of deduction is of some philosophical importance, and in the above proofs we have indicated it by putting the rule of inference in square brackets. (*PM*, 106)

This difference surely has something to do with the fact that the object-language/metalanguage distinction had not yet been discovered at the time Russell wrote. But there are more philosophically significant reasons for the difference.

These features of Russell's view of his logic can be better understood if we keep in mind that in this period Russell accepted and attempted to maintain a theory of propositions first propounded by G. E. Moore.[16] The general view is that propositions are composed of the very entities that they are about, and are true or false absolutely, not relative to this or that perspective. To this general picture we may add the thesis that propositions are themselves entities, and one of the relations in which *these* entities can stand is the relation of implication. Thus there are propositions about propositions, describing which propositions stand in the relation of implication; of course, propositions of this special class literally have other propositions as their constituents. These are principles or rules of inference, which are candidates for being laws of logic. Since they are propositions, they are objectively true or false. They are no more than candidates to be laws of logic because a necessary condition for being a law of logic is maximal generality.[17] The propositions of logic have to be descriptions of how propositions are related by implication, in virtue of being propositions, *simpliciter*, not in virtue of being about this or that subject matter. For this reason, since the propositions of logic are propositions, they have to be applicable to themselves.[18]

[16] See Moore 1899. Russell writes in the preface to *Principles*: "On fundamental questions of philosophy, my position, in all its chief features, is derived from Mr. G. E. Moore. I have accepted from him the non-existential nature of propositions . . . and their independence of any knowing mind" (*PoM*, xviii).

[17] It is clear that Russell also took pains in *Principles* to ensure that axioms of propositional logic are also general truths. In *Principles* §7 Russell argues that variables in generalizations are unrestricted, and so it follows that these axioms are also unrestrictedly general truths. But I would like to emphasize that in my reading of Russell I am *not* claiming that this maximal generality of truth is a sufficient condition for being an axiom of logic. Indeed, I do not claim even that being a maximally general truth is necessary for being an axiom of logic. The maximal generality of logic is generality as norm of inference, not generality as truth.

[18] Of course this picture is already complicated in *Principles* by Russell's theory of generality and denoting concepts. In *Principia*, the theory of types introduces additional complications for the idea of complete generality for logical axioms.

We have now an initial account of why, for Russell, rules of inference are true or false rather than valid or invalid. But there is more to be said on this issue. Validity and invalidity are notions usually explained in terms of truth and falsity. I suggested that on this contemporary conception of logic truth is conceptually prior to validity and implication, and so facts about truth-conditions are the bases for establishing facts about implication. In particular, to show the independence of a statement from a set of statements, one can devise an interpretation that falsifies the former and verifies the latter. And, of course, independence is failure of implication.

Let's compare this semantic view of logic with Russell's reasoning in the passage from *Principles* §17 quoted above. Russell there argues that if we suppose an axiom of logic to be false, then we are supposing that certain relations of implication do not hold of propositions in general, while others do. In other words, we are supposing that inferences in accordance with the axiom are incorrect while other inferences, made in accordance with other propositions about implication, would be correct—in short, that a different standard of correctness holds of inference in general than we had thought. But then in our reasoning about these axioms of logic, we would be constrained to follow the supposed new standard of correctness. This shows that Russell wouldn't accept the semantic view of the dependence of validity on truth-values in any straightforward way *for the axioms of logic*, since Russell rules out establishing failures of implication, that is, independence, by appealing to assumptions about the truth and falsity of the logical axioms. To these texts we should add the further point that Russell explicitly claims that implication is specifically not definable in terms of truth: "A definition of implication is quite impossible. If p implies q, then if p is true q is true, i.e. p's truth implies q's truth; also if q is false p is false, i.e. q's falsehood implies p's falsehood. Thus truth and falsehood give us merely new implications, not a definition of implication" (*PoM* §§16, 14). These texts thus support the claim that Russell rejects the conceptual priority of the notions of truth and falsity with respect to the notion of implication. Implication is not analyzable in terms of truth, in the sense that the extension of the relation of implication is not fixed by facts, which obtain independently of the relation of implication, about how the truth-values of propositions of various logical forms are related to one another.

Now, if implication is indefinable, one may well wonder how one determines whether a proposition about implication is correct. That implication is not definable in terms of truth doesn't, of course, imply that truth isn't a reliable guide to implication. However, Russell has a view of indefinable notions. As he puts it in the preface to *Principles of Mathematics*, "The discussion of indefinables . . . is the endeavour to see clearly, and to make others see clearly, the entities concerned, in order that the mind may have that kind of acquaintance with them which it has with redness or the taste of a pineapple" (*PoM*, xv). Thus it seems that Russell is committed to claiming that our knowledge of

the relation of implication is obtained primarily by acquaintance with that relation, so that we have something like a quasi-perceptual faculty by which we gain epistemic access to entities such as implication.

A natural question raised by this view is: how does one come to "see" the properties of implication? I don't know of anyplace where Russell discusses this question explicitly. However, I think we can reach a conjectural answer by considering Gödel's well-known view of the perception of mathematical objects. Gödel writes, "Despite their remoteness from sense experience, we do have something like a perception also of the objects of set theory, as is seen from the fact that the axioms force themselves on us as being true."[19] The important point to note in this passage is that Gödel seems to give our acceptance of the axioms of set theory as the ground for his claim that we have "something like a perception" of abstract objects. I would take this point to go further: the perception of set-theoretic objects operates via doing set theory—thinking about the axioms and reasoning to the theorems. I would further suggest that something similar is true of Russell's conception of seeing the properties of implication. Recall that he writes, "Every deductive system must contain among its premisses as many of the properties of implication as are necessary to legitimate the ordinary procedure of deduction" (*PM*, 90). I take this to mean that we discover the properties of implication by examining "the ordinary procedure of deduction."

Before going on to discuss Lewis, I want to pause to note that we now have the materials for a reply to the Quinean criticism of the Russell-Lewis controversy outlined in section 2 above. Even if Russell had considered a version of the Quinean account of implication that did not require the notions of object-language and metalanguage, he would not have accepted it because, as we now see, Russell has reasons against taking implication to be analyzable in terms of a more fundamental notion of truth. If logic is to consist of general statements describing the properties of implication, it will have to be based on our direct intuition of the obtaining or otherwise of that relation. If one attempts to base logic, that is, the theory of implication, on a theory of truth-conditions, one would have to appeal to the notion of implication anyway in order to determine what implications hold.

4. LEWIS

Lewis, I claim, was in many ways a faithful Russellian—faithful, that is, to some of the main aspects of the conception of logic that we discussed in the last section. I will try to substantiate this claim by examining some closely connected themes in Lewis's criticisms of *Principia*, themes that, so far as I know, have not received much detailed discussion.

[19] Gödel 1964, 271.

The first theme is Lewis's claim that not only does *Principia* contain false theorems, but its supposed proofs are not really proofs. This appears for the first time in the second paper that Lewis published on strict implication, "Interesting Theorems in Symbolic Logic":

> The consequences of this difference between the "implies" of the algebra and the "implies" of valid inference are most serious. Not only does the calculus of implication contain false theorems, but all its theorems are *not proved*. For the theorems are implied by the postulates in the sense of "implies" which the system uses. The postulates have not been shown to imply any of the theorems except in this arbitrary sense. Hence, *it has not been demonstrated* that the theorems *can be inferred* from the postulates, even if all the postulates are granted. (*IT*, 242)

Later that year Lewis published in the same journal "A New Algebra of Implications and Some Consequences," where he writes that if a system of logic "contains a primitive proposition which is materially false, we shall have *false proofs* as well as materially false statements of implications, within the logic itself" (*NA*, 429). In *Survey of Symbolic Logic*, Lewis claims that in *Principia* "some of the theorems [are] *invalidly inferred*" (*SSL*, 325).

The second theme is Lewis's explanation of why *Principia* contains "false" or "invalid" proofs, and it brings us to Lewis's Russellian inheritance. Lewis's argument begins with a conception of pure mathematics that directly echoes Russell's definition of pure mathematics as a class of implications: "Pure mathematics is not concerned with the truth either of postulates or of theorems: so much is an old story. . . . Modern geometry—Euclidean or non-Euclidean—is not concerned with the truth either of postulates or of theorems, but it *is* concerned with the fact that the postulates *truly imply* the theorems" (*NA*, 428). In *Survey* Lewis writes, "Suppose a postulate of geometry to be perfectly acceptable as an abstract mathematical assumption, but false of 'our space.' Then the theorems which spring from this assumption may be likewise false of 'our space.' But still the postulate will *truly imply* these theorems" (*SSL*, 324–25). Thus, "pure mathematics does not seek to prove theorems, but only, in the last analysis, that certain postulates imply certain theorems" (*NA*, 428).

How, on Lewis's view, does proof in pure mathematics work? The answer, of course, is that it works by deductive reasoning, and it is here that logic comes in:

> The drawing of conclusions is not a process in which premises retire into somebody's reasoning faculty and emerge in the form of the result. . . . Proof takes place through the collusion of two factors; first, postulates or propositions of the particular mathematical system in hand; secondly, postulates or theorems which state implication

> relations between premises of that logical or mathematical type and the desired conclusion. A mathematical operation is ideally *no* more than this: the substitution of the variables or functions of variables of the particular system—say, of cardinal number—for the logical variables in some proposition about implications. This proposition is more than a rule for inference; when the substitution is made, it *states* the implication. The result is the statement of what the variables or functions of the cardinal number system imply—a proposition in cardinal arithmetic. This result is not strictly the theorem to be proved, but only the statement that certain expressions or relations of variables imply certain others. . . . And the proposition which states the particular implication relation in more general form, because its variables have a wider range of meaning is itself a mathematical proposition, in the algebra of logic. (*NA*, 428–29)

I would like to emphasize three points in this account of proof in pure mathematics. First, Lewis clearly does not think that logic supplies a set of transformation rules that license transitions from mathematical propositions to other mathematical propositions. Second, the picture is, rather, that logic consists of general "proposition[s] about implications," and when these generalizations are instantiated with particular mathematical notions we obtain *statements* of implications, and these *are* the propositions of pure mathematics. Finally, note that a logical generalization about implication "is itself a mathematical proposition, in the algebra of logic." On this last point it should be borne in mind that in this period Lewis took the algebra of logic to include both the Boole-Schröder school and *Principia*.

This last point, Lewis argues, leads to a misconception about logic. The algebra of logic treats the propositions of logic as mathematical propositions. But "pure mathematics is no longer concerned about the truth either of postulates or of theorems, and definitions are always arbitrary. Why, then, may not symbolic logic have this same abstractness? What does it matter whether the meaning of 'implies' which figures in such a system be 'proper' or not, so long as it is entirely clear?" (*SSL* 324). One might add to this proposed view of logic the further thesis that "logic, like any pure mathematics, is concerned only with 'mathematical consistency'" (*NA* 429).

Lewis's reply to these views of logic concedes that it *is* possible to view logic as "pure" in the same sense that pure mathematics is "pure." However, "the algebra of implications ceases, in a sense, to be pure and becomes applied when its propositions are used in proving anything" (*NA* 429). Logic, for Lewis, is *the* organon of proof: "while other branches find their organon of proof in the logic, this discipline supplies its own" (*NA* 429). Logic, that is to say, constitutes the universal standard of correct reasoning. It is the notion of correct reasoning that entails the existence of a "proper" meaning of "implies":

> It is impossible to escape the assumption that there is some definite and "proper" meaning of "implies." The word denotes that relation which is present when we "validly" pass from one assertion, or set of assertions, to another assertion, without any reference to additional "evidence." If a system of symbolic logic is to be applied to such valid inference, the meaning of "implies" which figures in it must be such a "proper" meaning. We should not hastily assume that there is only one such meaning, but we necessarily assert that there is at least one. This is no more than to say: there are certain ways of reasoning that are correct or valid, as opposed to certain other ways which are incorrect or invalid. (*SSL* 324)

Thus, in order to qualify as a universal standard of correct reasoning, a purported system of logic must be responsible to the "meaning of 'implies'"; such a system "*cannot be a criterion of valid inference* unless the meaning, or meanings, of 'implies' which it involves are 'proper'" (*SSL* 324). Indeed, since pure mathematics *is* "concerned with the fact that the postulates truly imply the theorems," "it would seem, then, that pure mathematics must concern itself with the truth of the propositions in logic which state, in general form, the implications in question" (*NA* 428).

We now come finally to an account of why there are false proofs in *Principia*. *Principia* is "*logistically* developed—i.e., without assuming ordinary logic to validate its proofs" (*SSL* 324). Hence, it

> is peculiar among mathematical systems in that its postulates and theorems have a double use. They are used not only as premises *from which* further theorems are deduced, but also as rules of inference *by which* the deductions are made. A system of geometry, for example, uses its postulates as premises only; it gets its rules of inference from logic. Suppose a postulate of geometry to be perfectly acceptable as an abstract mathematical assumption, but false of "our space." Then the theorems which spring from this assumption may be likewise false of "our space." But still the postulate will *truly imply* these theorems. However, if a postulate of symbolic logic, used as a rule of inference, be false, then not only will some of the theorems be false, but some of the theorems will be *invalidly inferred*. The use of the false postulate as a *premise* will introduce false theorems; its use as *a rule of inference* will produce *invalid proofs*. "Abstractness" in mathematics has always meant neglecting any question of truth or falsity in postulates or theorems; the peculiar case of symbolic logic has thus far been overlooked. But we are hardly ready to speak of a "good" abstract mathematical system whose *proofs* are *arbitrarily invalid*. Until we are, it is requisite that the meaning of "implies" in any system of symbolic logic shall be a "proper" one, and that the theorems—used as rules of inference—shall be *true* of this meaning. (*SSL* 324–25)

The connection to *Principles* §17 and *Principia* *1 is clear. Lewis, just like Russell, sees a dual role for the axioms of logic. More important is that for both, this dual role opens up a space for "special fallacies." In Russell's case, if a true logical axiom is assumed false, then the supposed consequences deduced on that assumption—that is, based on taking some other proposition to be a rule of inference—don't in fact follow. This surely means that a supposed proof consisting of such deductions would be incorrect, a "false" or "invalid" proof. It seems that Lewis's charge against Russell must be that such special fallacies already exist in *Principia*, since some of the axioms and theorems are already false: false of the relation of implication, false of the "proper" meaning of "implies."

The natural question to raise here is: what are Lewis's grounds for thinking that the logic of *Principia* fails to capture the proper meaning of "implies"? In the last section we saw that for Russell one couldn't establish the obtaining of the relation of implication on the basis of relations among truth-values of propositions that hold independently of implication. In addition, one couldn't establish the failure of implication among logical axioms by reasoning from assumptions of their falsity. The only access we have to the indefinable notion of implication is by a quasi-perceptual type of intuition, one that nevertheless operates by considering the ordinary procedures of deduction. Lewis, I will now argue, holds exactly parallel theses.

For Lewis, as for Russell, whether implication holds is not established on the basis of facts about how truth-values of propositions are related to one another. One way to see this is to consider Lewis's response to Norbert Wiener's defense of *Principia*. Wiener concedes that Russell's account of implication "is not what we ordinarily mean by implication."[20] But he takes Lewis's criticism of *Principia* to rest on the following argument:

> From the fact that if a set of postulates deals correctly with our ordinary relation of inference, it will yield us a correct logic, [Lewis] infers that if a set of postulates fails to deal with this relation, and, like the Russellian logic, seizes upon some other relation as its fundamental notion, the logic to which it leads must be faulty and incorrect. (Wiener 1916, 656)

Wiener then replies that this argument commits the fallacy of "denying the antecedent":

> It is conceivable that we may develop a valid theory of demonstration, the fundamental notion of which is other than what we ordinarily call inference, which is correctly derived from its own postulates. It is not necessary that a theory whose

[20] Wiener 1916, 656.

> purpose it is to yield us a norm of valid inference should itself in the first instance be a theory of inference. We say that one proposition can be inferred from another if there is a certain relation between them such that we are compelled to accept the former proposition as true if we accept the latter one. The purpose of Logic, in so far as Logic is a norm of inference, is to provide us with certain methods which, when applied to any true proposition of a suitable sort, will yield us other true propositions. These methods need not of themselves involve any reference to the concept of inference, and may not lead us to realize that they are methods of inference. (Wiener 1916, 656–57)

Wiener goes on to argue that not only is truth-preservation from premises to conclusion all that logic, as a norm of valid inference, needs to accomplish, but also that any method of inference that does accomplish this would succeed in establishing implications in the ordinary sense, from premises to which it has been applied to the conclusions obtained by its application:

> If . . . we interpret Mr. Lewis as maintaining that we are justified in inferring one proposition from another whenever we are able to proceed to the first from the second by a valid process of reasoning, then, since we are clearly bound to accept the Russellian theorems in the Algebra of Logic if we accept the Russellian postulates, we must maintain that the Russellian postulates imply the theorems, not only according to their own peculiar definition of the relation of implication, but precisely according to our usual understanding of the relation of implication. (Wiener 1916, 658–59)

For now let's focus on the part of Lewis's reply in which he writes, "I grant that the postulates of material implication are true, of their own meaning of 'implies,' and since true propositions do not materially imply false ones, the theorems are true in the same sense" (*IM*, 354). In the context of Wiener's position, this reply shows that Lewis accepts that the axioms of *Principia* are all true, and that the methods of inference of *Principia* do indeed lead from truths to truth, hence the theorems of *Principia* are also all true. That is to say, the relation among truth-values of propositions that constitutes truth preservation from premises to conclusion is not, for Lewis, a sufficient basis for implication.

Further evidence that for Lewis implication is the primary notion, not analyzable in terms of truth, is Lewis's attitude toward what he calls "truth-value systems" and "the matrix method," discussed in chapter VII of *Symbolic Logic*. These are truth tables and their many-valued generalizations by Łukasiewicz and Tarski. For Lewis, "[a] truth-value system is essentially an abstract mathematical structure" (*SL*, 233). So although Lewis shows how it's possible to define a number of notions of implication in these

truth-value systems, he does not take any of these definitions to constitute an analysis of implication in independent terms, because each such definition is an "interpretation" of the system, and "any interpretation of such a system presumes antecedent logical meanings" (*SL*, 233). I take this to mean that for Lewis any attempted definition of implication in terms of truth will not be acceptable until it passes the test of cohering with the intuitive extension of implication.

Now consider Lewis's discussion of how to determine the "proper" meaning of "implies":

> The question *What* is the "proper" meaning of "implies"? remains peculiarly difficult. It is difficult, first, because there is no common agreement which is sufficiently self-conscious to decide, for example, about "material implication" or "strict implication." Even those who feel quite decided in the matter are easily confused by the subtleties of the problem. And, second, it is difficult because argument on the topic is necessarily *petitio principii*. One must make the Socratic presumption that one's interlocutor already knows the meaning of "implies," and agrees with one's self, and needs only to be *made aware* of that fact. . . . If two persons should really disagree about "implies"—should have different "logical sense"—there would be nothing to hope for from their argument.
>
> In consideration of this peculiar involution of logical questions, the best procedure is to *exhibit* the alternatives in some detail. When the nature of each meaning of "implies," and the consequences of taking it to be the "proper" one have been exhibited, the case rests. (*SSL*, 325; last two emphases mine)

This passage indicates that for Lewis the way to obtain knowledge of implication is by examining alternative descriptions of the properties of implication and seeing which one accords with one's assumed innate "logical sense." This clearly accords with the view I have attributed to Russell, in which intuitive knowledge of properties of implication are derived from examining ordinary procedures of deductive inference.

We have now seen that Russell and Lewis share two views about implication: that it is not based on truth-values, and that our access to it is by intuition through consideration of procedures of deductive reasoning. Thus the reply to the Quinean criticism of the Russell-Lewis controversy I gave on behalf of Russell at the end of section 3 clearly works for Lewis as well. However, if this reading is right, how did Lewis and Russell end up disagreeing over the properties of implication? Is it that, as Lewis puts it, they have "different 'logical sense'"?

To answer this question, let me first pose another, which may well have already been troubling the reader. Earlier I suggested that Lewis must have taken *Principia* to contain "special fallacies": false axioms and false proofs of false theorems. But more recently we saw Lewis replying to Wiener that the axioms and theorems of *Principia*

are true and its inferences truth-preserving. So one might wonder how these views are consistent.

Part of the answer is, of course, that Lewis holds the axioms and theorems of *Principia* to be true of the "meaning" of material implication, but false of the "proper meaning" of "implies." Now, as noted in section 3 above, for Lewis much of what makes the paradoxes of material implication paradoxical is that they assert implications in which the premise and conclusion are not mutually relevant. So one might think that the special fallacies of *Principia* would include cases of irrelevance between axioms and theorems. But this turns out not to be the case. In his reply to Wiener, Lewis accepts "that the postulates and theorems of the system of material implication *are relevant* to each other" (*IM*, 355; emphasis mine). So why does Lewis find the logic of *Principia* problematic? How could it "*not* [be] *demonstrated* in *Principia Mathematica* that the theorems of the system of material implication can be inferred from the postulates" (*IM*, 353), if *Principia*'s methods of demonstration yield truth-preserving and relevant connections from true axioms to true theorems? What more does Lewis demand from a formulation of logic?

The answer is that for Lewis a system of logic must not merely enable correct inferences to be made; it must state correct implications. So the problem with *Principia* is that, by using material implication, it fails to reflect and make explicit all features of its own inferential practices. Whitehead and Russell succeed in avoiding irrelevant transitions in their proofs only by dint of "neglecting ever to use [the paradoxical] theorems as rules of inference" (*IM*, 352). And now we can come back to our initial question. That Whitehead and Russell do neglect to use these theorems shows that their "logical sense" is in fact no different from Lewis's. If *Principia* is not logic, but merely a mathematical theory, this neglect would be unproblematic. As we have seen, for Lewis theories of special subject matters take their "organon of proof" from logic. Such theories need only get their inferences right; they don't need to include, as part of the theory, statements of correct inferences. But logic, which is its own organon of proof, must include statements of what inferences are correct and exclude ones that are incorrect; moreover, these statements must apply to the very reasoning that is used in logic. That the logic of material implication fails in this regard shows that material implication is not logic at all, but only a (mathematical) theory of some particular subject matter. This is why Lewis claims that the theorems of material implication "are not rules for drawing inferences at all, but only propositions about the nature of any world to which this system of material implication would apply" (*CSI*, 244).[21]

[21] This is another reason why Lewis was not very troubled by what Curley takes to be the specific metaphysical consequences of material implication. That material implication constitutes *any* metaphysics of the world at all is already a problem for its status as logic.

What Whitehead and Russell did was to turn a necessary condition for the obtaining of the intuitive relation of implication into a sufficient condition as well. As they put it:

> The essential property that we require of implication is this: "What is implied by a true proposition is true." It is in virtue of this property that implication yields proofs. But this property by no means determines what is implied by a false proposition. What it does determine is that, if *p* implies *q*, then it *cannot* be the case that *p* is true and *q* false, i.e. it *must* be the case that either *p* is false or *q* is true. The most convenient interpretation of implication is to say, conversely, that if either *p* is false or *q* is true, then "*p* implies *q*" is to be true. (*PM*, 94)

As a result, in their system one can derive indefinitely many purported rules of inference that they would find themselves constrained to avoid using in their actual practice of proof. Looking at matters in this way, we find, ironically, Lewis the great advocate of pragmatism taking Whitehead and Russell to task for allowing pragmatic considerations to cloud their logical sense and produce a purported logic that does not properly reflect the great deductive achievements of *Principia*.

5. WAS MODAL LOGIC MODAL LOGIC?

In this section I will attempt to spell out some implications of the preceding account of Lewis's critique of Russell.

To begin with, let's recall the contemporary view of the nature of modal logic sketched in section 2 above. Modal logic consists of principles of correct reasoning governing a class of propositions demarcated by their involving the concepts of necessity and possibility. These principles are based on an account of the truth-conditions of such propositions; it is in giving this account that one appeals to the metaphysics of possible worlds.

If this is modal logic, and if the preceding account of Lewis is right, then Lewis's logic of strict implication has nothing to do with modal logic.

First, for Lewis logic is the universal organon of correct inference, and so must have a scope larger than just one class of propositions among others. Thus, from Lewis's perspective, it is not clear that modern modal logic is logic at all.

Second, as we have seen, the notions of necessity and possibility are, for Lewis, required to state correctly the general facts of implication, and so required to formulate the propositions of logic. These notions are thus not the subject matter of a special type of deductive reasoning (except insofar as deductive reasoning is about all subject matters). They are, rather, that by which we can formulate any genuine universal principles of reasoning at all. Strict implication is logic, period, not a logic of the (alethic or other) modalities.

Third, implication for Lewis is not based on relations among truth-values of propositions. A theory of such relations, provided for instance by the matrix method, does not furnish a criterion of validity independent of our intuition of which inferences are valid and which ones are not. Thus, unlike contemporary modal logic, the primary logical notion for Lewis is not based on a theory of truth-conditions.

So, finally, for Lewis the relation of the metaphysics of the modalities to logic is different from the relation between the contemporary metaphysics of the modalities and contemporary modal logic.

6. CODA: MODALITY AND LOGIC AFTER LEWIS

By the time Lewis came to write *Symbolic Logic* with Langford, he had come under the influence of Wittgenstein's *Tractatus Logico-Philosophicus*.[22] In *Symbolic Logic* Lewis explicitly makes the ideas of "tautology" or of "exhausting the possibilities" the hallmark of logic. This raises the question whether by that point Lewis has a view of the status of the notion of possibility different from the view he had in *Survey*. In the earlier work this notion appears to be required merely for making explicit the standards that govern our inferential practices; in the later work one might take Lewis to hold that possibility provides the basis of an account of what qualifies something as a standard of deductive inference. Call these views the descriptive and explanatory conceptions of possibility with respect to logic. Lewis never settled on one of these conceptions over the other, but the subsequent development of modal logic and metaphysics may be seen as a gradual move from the descriptive to the explanatory conception.

I have already mentioned the influence of the *Tractatus* on Lewis. This enigmatic work occupies a strange position in our history. It has persistently been read as presenting a theory of the representational power of language in terms of possible facts. Indeed, it is because such a reading of the *Tractatus* tempted Lewis that his acceptance of the work generated the ambiguity described above. I would argue that Wittgenstein in fact rejects the explanatory adequacy of the notion of possibility with respect to logic; this argument is an important basis of Wittgenstein's well-known idea that the nature of logic cannot be stated but only shown. For Wittgenstein, logic cannot be founded on prior and independent facts concerning possibilities. This is because, on one hand, only the complete totality of possibilities could ground logic, but that totality always outruns any attempt to specify it. Any such specification would have to state facts about possibilities, but stating a fact is intelligible only against the background of alternatives, that is, possibilities, excluded by the statement. On the other

[22] Originally published as Wittgenstein 1921.

hand, the practice of fact-stating discourse is constituted by the norms governing what statements we may or must make, that is to say, by norms governing what configurations of possibilities are implicit in the statements. So the explanatory priorities are the reverse: our grasp of possibility and necessity is based on our appreciation of the norms of deductive inference.

The path of historical development went from Lewis and Wittgenstein to Carnap. Carnap rejected Wittgenstein's idea that the nature of logic is ineffable. This is in part because he thought formal semantical methods can make precise the notion of a possible state of the world and thereby give an explication of the nature of logic: logic consists of truths that are necessary because they hold no matter how the world is configured. He also applied this explication to Lewis's logic of implication to show that possibility need not be an unelaborated primitive notion of logic. Carnap's work has to be understood in its proper philosophical context. Carnap's overarching project was to employ the techniques of mathematical logic to replace the fruitless disputes of traditional metaphysics with precise delineation of linguistic frameworks in which to conduct rational inquiry. The precision and explicitness of these frameworks enable exact and impersonal evaluations of the results of inquiry; at the same time the frameworks capture what rational content there is in intuitive metaphysical ideas. Thus, linguistic frameworks—both syntactic and semantic—yield rational reconstructions that transform metaphysical theses about the constitution of reality into rules for various types of formal languages. Metaphysical disputes then turn into pragmatic issues of which language to adopt. It follows that Carnap's explication of logical necessity was not intended to be faithful to pre-existing facts about the real nature of logic. Rather, its purpose was to allow formal languages to incorporate rules replacing the intuitive notion of logical necessity. Thus Carnap, like Wittgenstein, did not discern any substantive explanatory role for modality.

Intertwined with Carnap's work were Quine's two famous criticisms of modal logic: first, that the use of modal idioms generates paradoxical inferences, and second, that avoiding these inferences requires adopting a suspect metaphysics of essentialism. Two sets of replies to Quine have come to be accepted as conclusive. The first consists of technical replies. On one hand, Arthur Smullyan, Frederick Fitch, and Stig Kanger developed techniques in modal logic to circumvent Quine's paradoxical inferences; on the other hand, Ruth Marcus and Terence Parsons interpreted essentialism in mathematical terms to demonstrate that semantic theories of modal discourse are not committed to its logical truth. But these replies fail to take into account the philosophical context of Quine's criticisms, and so fail to do them full justice. The context is Quine's rejection of the central assumption of Carnap's project: that the specification and adoption of linguistic frameworks is an enterprise entirely independent of rational investigation of the world. Quine argued that there is no

metaphysically neutral way of formulating linguistic frameworks for rational reconstruction, because if we are to put the rules of such a framework to work, to make statements and inferences with the constructed language, we have to have an intelligible interpretation of the language. Such an interpretation, however, can proceed only on the basis of having adopted a theory of world. Thus, there is no such thing as making intelligible use of Carnap's modal languages and their logics without accepting, implicitly or explicitly, that reality comprises entities with essential and accidental properties. Quine's deepest objection to modal logic rests on this rejection of Carnapian explication, together with the further argument that our background theories of the world have no place for such entities. The technical replies canvassed above do not meet this objection. They amount to refinements of modal linguistic frameworks and interpretations of essentialism within these frameworks. But Quine's point is that taking linguistic frameworks to be those within which to address metaphysical questions is in itself already the adoption of a metaphysical commitment, an adoption that requires justification.

The second set of replies to Quine is not as fully elaborated or clearly formulated as the first, but it stems from an appreciation, however inchoate, of the depth of Quine's criticisms. We saw that the heart of Quine's criticisms is his linking the use of modal language and logic to the commitments of our background theories of the world. This link is tacitly accepted by Marcus, Jaakko Hintikka, and Saul Kripke, who argue against Quine that ordinary unreflective speech and reasoning are already implicitly committed to Carnap's explication, that is, to conceiving of reality as populated by entities existing, with varying properties, in a range of possible worlds. Only inconsistency would bar this background metaphysical theory from playing a foundational role of grounding the use of modal languages. But the availability of formal semantic theories that represent the metaphysics secures its consistency.

In sum, the decisive move to the contemporary conviction in the legitimacy of modal concepts required three pivotal ideas: (1) the abandonment of Carnapian explication, (2) the elaboration of formal semantic theories of modal discourse, and (3) the appeal to implicit metaphysical commitments of ordinary discourse and thought.

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14

ON "BEING" AND BEING
FREGE BETWEEN CARNAP AND HEIDEGGER

Leila Haaparanta

1. INTRODUCTION

Philosophers reveal hidden background assumptions. It is a central task of philosophy to make tacit commitments explicit. The twentieth-century analytic tradition performed this task mainly by analyzing concepts and studying the complex chains of reasoning and commitments that could be found behind assertions; it studied webs of beliefs, one might say. In analysis, beliefs are treated as units that can be expressed as meaningful sentences; by means of sentences commitments can thus be written down. That kind of activity is an important part of all philosophical practice, whatever the tradition or school may be. In Husserlian phenomenology the object of study is the noetic-noematic structures of experience; phenomenological reductions are carried out in order to make hidden commitments explicit. It is often said that analytic philosophers are interested in language, not experience or the world, whereas phenomenologists open up the structures of experience or being. There is a grain of truth in this claim; however, philosophy, at least in our European tradition, tries to make the non-linguistic explicit by expressing it in language, that is, by writing down the background on which the philosophically naive rely. The word "naive" is not used in a pejorative sense in this context. The philosophically naive person may be the man in the street, the philosopher himself or herself, a representative of another tradition, or a classic of philosophy. Philosophers who want to maintain the distinction between the twentieth-century traditions mentioned above would argue that the effort to see similarities between the traditions

This essay contains extracts from the following works of mine: "On the Relations Between Logic and Metaphysics: Frege Between Heidegger and the Vienna Circle," in *Metaphysics in the Post-Metaphysical Age*, ed. U. Meixner and P. Simons, 1:243–48 (Kirchberg am Wechsel: Austrian Ludwig Wittgenstein Society, 1999), and "The Relations Between Logic and Philosophy, 1874–1931," in *The Development of Modern Logic*, ed. L. Haaparanta, 222–62 (New York: Oxford University Press, 2009).

oversimplifies the situation. They would say that even if all philosophy revealed the hidden, that would be too thin a tie between different traditions. A wish to keep the distinction may be an important point of view that guides discussion; likewise, a wish to find similarities may determine what one stresses and what one ignores. These kinds of wishes arise in various ways, and one needs studies that overcome the limits of philosophical argumentation and philosophical texts in order to understand those wishes; hence, one needs studies of the surrounding culture and society, science studies, and studies in the history of science.

In this essay, few steps are taken outside the philosophers' texts. Instead, I seek to reveal the philosophers' background assumptions. One disagreement between logical empiricism and early analytic philosophy and early phenomenology concerned the relations between logic and metaphysics. The present essay is an attempt to open up that disagreement. First, as background, I will give a survey of the discussion on the word "is" that was going on among scholars in the latter half of the twentieth century. In this context I will pay special attention to how Aristotle's views were construed in comparison to those of Gottlob Frege. Second, I will move to Frege's doctrine of "being" and being and elaborate the interpretation I proposed and developed in the 1980s. Third, I will take a more careful look at Frege's position in the context formed by the opposition between Rudolf Carnap and Martin Heidegger concerning the relation between logic and metaphysics. I will argue that Frege's ideas of "being" and being fall between those of Carnap and Heidegger. I also present Carnap's attack against metaphysics in general and against Heidegger's metaphysics in particular in more detail. In the end, I will make a few remarks on Frege's view of judging and being.

Philosophers who work on metaphysics ask questions such as "What are the categories of being?" and "What is being or existence?" As Aristotle, Heidegger, and presumably many others have thought, science studies various beings, and this positing of certain kinds of being is the starting point of research. But science cannot make claims about what lies outside its positings. The question of what kind of beings can be posited in general is a typical philosophical question. The one who answers that question presents a doctrine of categories. Some philosophers—Heidegger, for example—think that the questions concerning what being itself is and how it is distinguished from nonbeing are even more basic than the question concerning categories. This essay focuses on both of the levels, that is, on the doctrines of categories and on the possibility of the question concerning what being or existence is as detached from the various categories. In recent years many overviews on Frege's philosophy and logic have come out.[1] Carnap's and Heidegger's debates have been discussed extensively, and Heidegger's

[1] See, for example, Beaney 1996, Macbeth 2005, Makin 2000, Mendelsohn 2005, and Weiner 2004.

view of being is a permanent point of interest among Heidegger scholars. What is less common is to study Frege's philosophy of logic and metaphysics against the background formed by Carnap's and Heidegger's debate. Gottfried Gabriel has paid attention to the difference between Carnap and Frege in their assessment of metaphysics. He argues that Carnap has an overall critical attitude against metaphysics, while Frege uses logical analysis locally in order to criticize particular metaphysical statements and arguments (Gabriel 2007, 70).

2. ON THE HISTORY OF THE PHILOSOPHY OF "BEING" AND BEING

In the latter half of the twentieth century, some philosophers and philologists, particularly Charles Kahn (1973), argued that there had been a curious interplay between philologists and philosophers that had to do with the Greek word meaning "to be," the concept of existence, and copula. This interplay resulted in the view that in ancient Greek the word for "be" was taken to be ambiguous. According to Kahn, nineteenth-century philologists misinterpreted the use of that word in ancient Greek and based their view on the interpretation of the ancient concept of being put forward by philosophers. Philosophers, for their part, took further support for their interpretation from the philologists' misinterpretation. In 1801 Gottfried Hermann, a German philologist, proposed a rule by which the accent was set on the word "is" in different ways depending on whether the word expressed existence or copula. Kahn studied these discussions in his book *The Verb "Be" in Ancient Greek* (1973) and in several articles.[2] G. E. L. Owen (1960) also argued that Aristotle's views on being were misconstrued in the history of philosophy. Michael Frede (1967), for his part, challenged the view that Plato distinguished between existence and copula. Besides Owen, R. M. Dancy (1975, 1983) criticized interpretations of Aristotle. Benson Mates (1979) attacked views holding that Plato distinguished between the "is" that expresses identity and the "is" that expresses predication.

Jaakko Hintikka took part in the discussion as early as the 1970s and the first part of the 1980s, arguing that the ambiguity thesis, or the so-called Frege-Russell thesis, was anachronistic when it was applied to Aristotle, and that it was also a false philosophical position. For Frege, accepting the thesis amounted to making the distinction between the "is" of existence, the "is" of predication, the "is" of identity, and the "is" of class inclusion in the ideal logical language. Hintikka considered the ambiguity doctrine in terms of his own theory of language and sought to prove that the word "is" of natural language is not ambiguous. He argued that the word has several uses, that is, meanings in context or meanings determined by context, but that it is not ambiguous when it is

[2] See Kahn 2009.

detached from contexts. Hintikka blamed Frege and Russell and their followers—Carnap, for example—for the mistake that the twentieth-century theory of language and logic came up with as a result of relying on the ambiguity thesis. In my studies on Frege's doctrine of being in the 1980s, I sought to show that when the ambiguity thesis was criticized, various theses were put forward, and not all of those theses did justice to Frege's project. I tried to reveal Frege's background assumptions, arguing that only once we have located these assumptions are we able to criticize his views in a just manner.

According to Aristotle, being is being in various categories; hence, being is not a genus, and no category exhausts all being. Being is always being some kind of substance, quality, quantity, et cetera. Aristotle distinguished between homonyms and synonyms. He called things synonyms when they had the same name and the same definition. Homonyms had a common name but different definitions. He thought that beings that are in different categories are neither homonyms nor synonyms; instead, for him the word "being" has various uses in language, where the categories of being are also found. Primarily being is being a substance, and from this use the word "being" has been transferred to the rest of the categories. In medieval scholastic terminology the word "being" and being itself were called analogous.[3]

Whether or not this way of presenting Aristotle's view is correct, the doctrine is different from the ambiguity thesis that is connected to Frege's name. In Frege's doctrine and in the doctrine of modern Fregean logic, the ambiguity thesis means the distinction between existence, predication, identity, and class inclusion. Moreover, there are actually two concepts of existence, one being an empty first-order concept and the other being a non-empty second-order concept. Aristotle distinguished between substance, quantity, quality, relation, place, time, position, state, action, and passion, while Frege was interested in existence, predication, identity, and class inclusion. Even if Aristotle's doctrine had been an ambiguity doctrine, he did not present the same kind of doctrine as Frege's. First, he did not distinguish between existence and predication. Second, for Aristotle a thing may be identical with its property if the property is essential.[4] That means that Aristotle did not distinguish between identity and predication. Third, the grammatical analysis of judgments treats predication and class inclusion in the same way; hence Aristotle did not distinguish between those two meanings of "is," either.

Why was Frege's doctrine an ambiguity doctrine? Frege wished to create a language that was better than natural language. For him, ambiguity was a great problem in natural language, and his aim was to present a formula language of pure thought that would show the world in the right way. The wish to realize this project was Frege's

[3] See Cat. 1, Met. Γ2, 1003b6–10, and Met. Z4, 1030a13.

[4] See, for example, Woods 1975.

important background assumption. If we do not share the assumption that natural language is metaphysically problematic, we are not tempted to follow in Frege's footsteps. What have the above meanings of being to do with the most fundamental structure of the world? My earlier studies have been efforts to answer this question. Here I will not repeat what I said in *Frege's Doctrine of Being* (1985). Instead, I will put forward the main idea of that book, which I still hold and which I have elaborated in various connections. Then I will suggest further ideas that could illuminate early twentieth-century discussions. Of course, much happened between Aristotle and Frege. In the Middle Ages, there were competing theories of predication, inherence, and identity, theories that distinguished between existence and copula, and theories that emphasized their unity. Kant had his view of existence, which Frege took to be his starting point, and John Stuart Mill, Augustus De Morgan, and many others discussed the topic in the early nineteenth century. I will not discuss those philosophers in the present work.[5]

3. FREGE'S BACKGROUND ASSUMPTIONS

The Fregean ideal language distinguishes five uses of the word "being," with different meanings:

1. "Being" that expresses a property of a concept (the "is" of existence, existence as a second-order concept, e.g., "There *is* at least one philosopher")
2. "Being" that expresses the existence of an object (an empty concept, "to be identical with oneself," e.g., "Socrates *is*")
3. "Being" as a part of predication (the "is" of predication, e.g., "Socrates *is* a philosopher")
4. "Being" that expresses identity (the "is" of identity, e.g., "The morning star *is* the evening star")
5. "Being" that expresses class inclusion (the "is" of class inclusion, e.g., "Man *is* an animal")

In what follows I will repeat theses that Frege himself put forth, and I will seek to make his background assumptions explicit.[6] My main point is that Frege approved of the following premises:

1. The ideal language is a language that mirrors the world correctly.
2. Natural language does not mirror the world correctly.

[5] See Haaparanta 1985 and Vilkko and Hintikka 2006.
[6] See Haaparanta 1985.

3. It is important to distinguish between objects, on one hand, and concepts and relations, on the other.

Frege concluded that an ideal language must make this very distinction. This view of Frege's can be collected from his book *Grundlagen der Arithmetik* (1884) and from his published articles, posthumous papers, and letters, such as "Boole's rechnende Logik und die Begriffsschrift" (1880–81; NS, 9–52), "Dialog mit Pünjer über Existenz" (before 1884; NS, 60–75), "Über Begriff und Gegenstand" (1892; KS, 167–78), and the letter to Hilbert (6.1. 1900; BW, 70).

Frege's terminology varied, but the philosophy of conceptual notation expressed by the above argument remained throughout his career. The starting point of Frege's doctrine was the distinction between an individual and a property or between an object and a concept. This distinction had its background in Kant's distinction between intuition and concept (see, e.g., GLA, §27n, and Haaparanta 1985, 103). Concepts and relations were represented by incomplete expressions in Frege's formula language. When criticizing Boole's calculus, Frege presented his view very clearly: Boole does not notice the hypothetical nature of universal judgments. That is, Boole does not recognize the distinction between predication and class inclusion, because he does not distinguish between individuals and concepts (see "Boole's rechnende Logik und die Begriffsschrift," 1880–1881; NS, 19). Furthermore, in his article "Über Begriff und Gegenstand" (1892) he emphasizes that the "is" of identity and the "is" of predication must be distinguished from each other, because objects and concepts must be distinguished from each other (KS, 167–68). Frege did not distinguish between essential and accidental properties. In his view, there are no properties that would be identified with objects as the essences of those objects. In his view, existence is not a contentual property of an object (see "Dialog mit Pünjer über Existenz," written before 1884; NS, 60–75). Here Frege followed Kant's doctrine. The empty concept of existence, for example, the existence of *a*, can be expressed in the formula language in the form "There is an *x* such that *x* is identical with *a*." However, primarily existence is a second-order property, a concept that is attached to first-order properties and relations that are attached to individuals, when one asserts that there are certain kinds of objects or objects that stand in a given relation to each other. When he wrote down existence as a negation of generality in two different ways in his conceptual notation, Frege needed the identity sign, on one hand, and the symbol for predication, on the other. This all is familiar from our elementary logic.

What would we say about Frege's background assumptions? Frege distinguished between language and world, but he was particularly interested in the world. He asked how we ought to present the world in order to present it in the right way. It is sometimes said that Frege's ontology is abundant—that it contains abstract objects, truth-values,

thoughts, classes, and so on. He did not have the categories that Aristotle presented. However, he had a doctrine of categories, in which the central categories that had to be taken into account were the category of individuals and the category of functions (concepts, relations). His ideal language was meant to mirror that distinction, and that was the point where he thought natural language failed. The ambiguity doctrine was thus a consequence of a metaphysical view. In the background, there was a doctrine concerning the structure of being and the view that language ought to be a correct mirror of that structure. This was the side of Frege's doctrine that the philosophers of the Vienna Circle, such as Carnap, did not emphasize when they praised the new logic as a method of showing the emptiness of metaphysical problems.

4. FREGE AND THE VIENNA CIRCLE

There was a well-known controversy between logic and metaphysics in the early days of the analytic tradition and the phenomenological movement. The Vienna Circle declared in 1929 that the new logic—the ideal language developed by Frege, Russell, and Whitehead—freed philosophy from considering the true nature of reality. It was believed that by means of the new formula language it was possible to show that metaphysical statements are meaningless. It was not thought that the ideal language would have a metaphysical content. For a logical empiricist, Heidegger's philosophy was a prime example of the meaninglessness of metaphysics. In 1931 Carnap published his article "Überwindung der Metaphysik durch logische Analyse der Sprache," in which he studied Heidegger's sentences, including his use of the word "*nichts*," and stated that the sentences of a metaphysician cannot be combined with the ways in which logic and science proceed. In his *Was ist Metaphysik?* (1929) as well as in the afterword of later editions of the same work Heidegger answers indirectly the criticism that has been raised against the way he uses the word *nichts*. According to Heidegger, nothing, as it is understood in his fundamental ontology, is the origin of negation, as it is understood in logic and language, not the other way round. His message is that logic has its origin in the being of Dasein (Heidegger 1992, 37) and philosophy can never be measured by means of the standards of the idea of science (ibid., 41). For Heidegger, the origin of the logical concept of being is also the being of Dasein. There thus seems to be a sharp contrast between Heidegger, who speaks about the meaning of being, and a philosopher who speaks about the different meanings of the word "is." It was Frege who distinguished the different meanings of *ist* in his conceptual notation, and therefore it may seem that Frege is clearly among those who wish to limit the talk about being to the word "is." But it was argued above that this is not the case.

In his lectures of 1933–34 Moritz Schlick states that philosophy is not a system of true propositions, but an art or activity that leads to clarity (Schlick 1986, 73). In the

manifesto of the Vienna Circle it is declared that the task of philosophy is not to make specific philosophical statements but to use the method of logical analysis in order to clarify problems and claims by means of the method developed by Frege, Russell, and Wittgenstein. It is precisely the role of those logicians and philosophers that is stressed by Schlick in his "Die Wende der Philosophie" (1930) (Schlick 1938, 33–34). However, there were significant differences between the views of Gottlob Frege and those of the Vienna Circle philosophers. The philosophical content of Frege's logic, that is, of the formula language of pure thought, as Frege described it, was changed in the hands of the philosophers of the Vienna Circle. In what follows, I will concentrate on the views that come up in Frege's and Schlick's writings and in the manifesto of the Vienna Circle.

The distinctions between syntheticity and analyticity as well as aprioricity and aposterioricity are problematic, and Kant, Frege, and the philosophers of the Vienna Circle certainly used the terms in different ways. Gottlob Frege considers them in his *Grundlagen der Arithmetik* (1884) and states that those distinctions concern the justification for making a judgment, not the content of the judgment. According to Frege, when we use the abovementioned concepts, we speak about different ways of justifying a judgment. He characterizes the concepts in relation to truths in the following manner: If we prove a proposition and in the proof only rely on general logical laws and definitions, then the truth is analytic. If it is impossible to give a proof without making use of truths that are not general logical truths but which belong to a special field of knowledge, then the proposition is synthetic. A truth is a posteriori if it is impossible to construct a proof without referring to facts, that is, truths that cannot be proved and that are not general because they contain claims about particular objects. If a proof can be derived solely from laws that do not need a proof and that cannot be proved, then the truth is a priori (Frege, GLA, §3).

In his late writings in 1924 and 1925 Frege distinguishes between three sources of knowledge, which he calls sense perception, the logical source of knowledge, and the geometric or spatio-temporal source of knowledge (Frege, NS, 294, 298). For Frege, there is such a thing as logical knowledge, which is knowledge of a specific realm of logical objects, namely, the structure of thoughts and the inferential relations between thoughts. The third realm, the realm of abstract objects, is objective, but it does not exist in the same sense as the first realm, which has an effect on our senses and which is studied by the natural sciences. However, logical knowledge is genuine knowledge as much as empirical and geometric knowledge are (see Frege, GGA I:xviii–xxiv; Frege, "Der Gedanke" (1918), in KS, 353).

What was the origin of philosophical knowledge, in Frege's view? Frege writes in his *Grundlagen* that if a judgment cannot be justified by means of logic, sense perception, or intuitively known general laws that need no justification, then we cannot decide whether the judgment we are interested in is analytic, synthetic, a priori, or a posteriori

(GLA, § 3). If Frege thinks that philosophical judgments can be classified by means of those concepts, he must take them to be analytic a priori or he must assume that there is a special field of philosophical knowledge (like that of geometric knowledge) that gives us synthetic truths a priori based on pure intuition. However, Frege does not consider those alternatives. There is not much that Frege tells us about the task of philosophy. In the beginning of his *Begriffsschrift* (1879) he writes that if one task of philosophy is to free the human mind from the power of the word by revealing the mistakes that are often and almost unavoidably caused by the use of language, then his conceptual notation constructed for this purpose will be a useful tool for philosophers (Frege, BS, 1964, xii–xiii). Frege often complains that natural language leads us astray. However, he nowhere states that philosophy's only task is to clarify language.

There is one story to be told concerning the relations between Kant and Frege that illuminates Frege's position among the opponents and the supporters of metaphysics. In the preface to his *Begriffsschrift* Frege states that he tries to realize Leibniz's idea of *lingua characterica*. That term most likely came from the Leibniz edition by J. E. Erdmann from the years 1839 and 1840, as the word *characterica* is used there instead of the word *characteristica* used by Leibniz (cf. Haaparanta 1985, 102–17). Adolf Trendelenburg also uses the same word in his "Über Leibnizens Entwurf einer allgemeinen Charakteristik" (Trendelenburg 1867, 4). According to Trendelenburg, philosophers ought to construct a Leibnizian universal language, *Begriffsschrift*, by taking Kant's theory of knowledge into account. In his view, Kant's contribution was to distinguish the conceptual and empirical components of thought and to stress the importance of studying the conceptual component. Trendelenburg also tells us about Ludwig Benedict Trede, who in his article "Vorschläge zu einer nothwendigen Sprachlehre" in 1811 tried to create a universal language by following Leibniz and Kant. Frege also calls his language conceptual notation, though he does take that to be a less successful name. He also uses the expression "the formula language of pure thought" in the subtitle of his book *Begriffsschrift* and the expression "the intuitive representation of the forms of thought" in his 1882 article "Über die wissenschaftliche Berechtigung einer Begriffsschrift" (Frege, BS, 113–14). The abovementioned connections were noticed and stressed by a few scholars several years ago (see Sluga 1980 and Haaparanta 1985). Even if there were no similarities whatsoever between Trede's notation and Frege's language, we can say that by his reference to Trendelenburg Frege told us something about the philosophical background of his conceptual notation.

On the basis of what has been said above, we may argue that Frege's conceptual notation was itself a philosophical position taking. That position was not in favor of psychological transcendentalism, according to which the necessary conceptual conditions that make knowledge and experience possible are typical of the human mind. Nor was it in favor of transcendental idealism, if we think that a transcendental idealist

is one who acknowledges a transcendental subject. We can say, however, that Frege was a kind of minimalist transcendentalist: he tried to write down the forms of thought, which Kant would have called the necessary conditions of knowledge and experience. It is, of course, obvious that Frege's conceptual notation was not a codification of those forms that we find in Kant's table of categories.

5. SCHLICK AND THE VIENNA CIRCLE ON THE FREGEAN LANGUAGE

The Vienna Circle gave special treatment to Frege's sign language. The manifesto of the Vienna Circle was directed against metaphysics, and the same spirit can be found in many other writings of the members of the circle. In the manifesto the new logic is described as a neutral system of formulas, a symbolism that is free from the slag of historical languages. It is a tool by means of which it is possible to show that the statements made by metaphysicians and theologians are pseudo-statements, that they express a feeling of life that would be properly expressed by art. The Vienna Circle regarded the close relation with traditional languages as the main problem of metaphysics. They also blamed metaphysics for assuming that thought can know itself without empirical material; that kind of knowing was sought by transcendental philosophy. The Vienna Circle declared that it is not possible to develop metaphysics from "pure thought" (Der Wiener Kreis 2006, 14). So they believed that logical analysis could overcome not only scholastic metaphysics but also Kantian and modern apriorism.

Hence, if we draw a line from Kant to Frege and then to the Vienna Circle, there is a crucial change in how the pure forms are understood. As early as his *Allgemeine Erkenntnistheorie* (1918) Schlick raises the question of whether there are any pure forms of thought; his answer is that thought, with its judgments and concepts, does not impress any form on reality (Schlick 1918, 304–5). For Schlick, that means the repudiation of Kant's philosophy (ibid., 306). In his article "Die Wende der Philosophie" (1930) he argues that the greatest change is due to a new insight concerning the nature of the logical, which was made by Frege, Russell and particularly Wittgenstein. According to that new understanding, the pure form is merely the form of an expression but that form cannot be presented (Schlick 1938, 33–34). It is indeed true that Frege did not present the system of signs called conceptual notation, if presenting it would have meant giving a semantic theory for the system in a metalanguage. If Frege thought that forms of thought are proper objects of knowledge, that knowledge was for him a kind of immediate recognition. Recognition of the correct forms, the result of which is conceptual notation, can be called immediate intellectual seeing or intuition. In his late writings in 1924 and 1925 Frege stresses that we see correctly if natural language does not disturb our intellectual seeing. Moreover,

when Frege discusses certain important features of his language, such as the distinctions between the different meanings of "is," he gives lengthy arguments for the distinctions. As we saw above, one of the most central reasons he puts forth is that his new language takes care of the difference between individuals and concepts, which is missed both in Aristotelian logic and in Boole's logic, and that difference is mirrored by the distinction between identity and predication as well as by the distinction between predication and class inclusion. Moreover, the motivation for denying that existence is a first-order predicate comes from Kant's thought. Frege also offers a positive contribution by trying to explain what existence is, namely, that it is a second-order concept. We can say that Frege not only has a view of the word "being" but also a view of the forms of being, which are forms of thought; those forms are meant to be codified as his ideal language.

The view of philosophy held by the Vienna Circle was characterized by the notion that philosophy was the art of using a tool. The good tool, they held, was Frege's, Russell's, and Whitehead's formula language. However, in the Vienna Circle's understanding of that language, it no longer had the epistemological and metaphysical content that it had for Frege. The pure forms were interpreted as the forms of a system of signs; the system of signs was no more "an intuitive representation of the forms of thought," as Frege wrote. In their manifesto the Vienna Circle declared that there are no depths in science but there is surface everywhere (Der Wiener Kreis 2006, 11). In that sense, the circle wanted philosophy to be like science.

Both Frege and Heidegger were interested in the philosophical basis of logic. Both thought that there is something under the surface. The Vienna Circle thought that philosophy is activity, which is especially emphasized by Schlick in "The Future of Philosophy" (1931). Schlick refers to Wittgenstein, for whom philosophy is not a theory but a certain kind of activity, that is, of clarifying meanings and writing expressions that do the job of clarification (Schlick 1938, 132). It is true that the incentive for that kind of philosophizing comes from Frege, among others, but it would be far from the truth to argue that Frege held that view.

6. CARNAP'S "ÜBERWINDUNG DER METAPHYSIK"

The Vienna Circle declared that the new logic freed philosophy from metaphysics. The argument was that natural language lures us to hold metaphysical views, whereas the formula language, developed by Frege, Russell, and Whitehead, frees us from the power of natural language, which leads us astray. In his "Überwindung der Metaphysik durch logische Analyse der Sprache" (1931) Carnap studied Martin Heidegger's text and sought to show that there are serious problems in metaphysicians' statements. (It may be worth noting that in the same volume of *Erkenntnis* in which Carnap's paper

appeared there was also a paper by Arendt Heyting in which the intuitionistic foundations of logic were developed on the basis of Edmund Husserl's and Heidegger's ideas.)[7]

Two important questions arise: First, precisely which of Heidegger's views was Carnap attacking? Second, how should we understand the details of Carnap's critique? Answering those questions would require a careful study of the historical context in which Carnap wrote his article. I will not try to accomplish that task in the present essay; however, one minor suggestion is in order. Carnap speaks about the *Überwindung* of metaphysics, which has been translated as either "elimination" or "overcoming."[8] There is an interesting point of comparison between Husserl and Carnap, if we think of Husserl's use of the phrase "Aufhebung der Thesis." After introducing phenomenological reduction in 1905, Husserl took as the starting point in his phenomenological project the step from the natural to the philosophical attitude. That presupposed the suspension or annulment (*Aufhebung*) of the thesis, or positing, of the natural attitude, that is, giving up several presuppositions that we rely on in everyday life and in the sciences, such as the presupposition that there is the outer world. That abandonment did not mean denying or even doubting the existence of the outer world. It meant that the question of its existence no longer appeared on the phenomenologist's agenda; it was overcome in the phenomenological project. Husserl's annulment was a step into a new conceptual framework where the earlier question did not trouble him.[9] It might be worthwhile to compare Carnap's ideas with those of Husserl in this respect; however, I will not try to do that in the present essay.

The above remark brings us to the question of what metaphysics is and what it was that Carnap wished to overcome. Metaphysics is often characterized as the study of the ultimate nature of reality; as ontology or as general metaphysics, it is the study of the most general categories of reality. Textbooks list metaphysical questions, such as the problem of universals, the psychophysical problem, and the debate between causalism and teleology, for example. After Kant (and even as early as in medieval philosophy), metaphysics turned out to be a study of the most general features of experience or of the most general features of language, and hence a study of the ways in which we have access to or construct the world. For Kant as well as for Carnap, the idea that the possibility of metaphysics had to do with the possibility of synthetic judgments a priori offered an important point of view, though I do not wish to argue that Kant and Carnap had the same criteria for syntheticity or for apriority. When I here discuss the overcoming of metaphysics, I mean the overcoming that was suggested by logical empiricism. I focus on the thesis presented by Carnap according to which the new logic

[7] See Carnap 1931. Also see Heyting 1931 and Der Wiener Kreis 2006.

[8] See Arthur Pap's translation in Carnap 1959; Friedman 1996, 2000; and Conant 2001.

[9] Cf. Haaparanta 1994, 2007.

shows that metaphysical statements are pseudo-statements. This view would nowadays be called metaphilosophical.

Michael Friedman writes in his article "Overcoming Metaphysics: Carnap and Heidegger" (1996) and also later in his book *A Parting of the Ways: Carnap, Cassirer, and Heidegger* (2000) that there were two branches of neo-Kantianism behind Carnap's and Heidegger's controversy. Carnap's background was in the Marburg School, which detached logical objects from sensuous intuition. Bruno Bauch, the neo-Kantian, who was Frege's colleague in Jena, was the supervisor of Carnap's dissertation. On the other hand, Heidegger's thought was linked with another branch of neo-Kantianism, the so-called Southwest School, which stressed the special nature of the humanities and the theory of values.[10] For Carnap, the sentences of metaphysics are neither true nor false but meaningless. In Heidegger's view, expressed in his *Was ist Metaphysik?* (1929), metaphysics comes first. As was mentioned above, in the afterword of later editions of his work Heidegger implicitly answered the criticism that Carnap raised against the ways he used the word *nichts*. According to Heidegger, nothing is the origin of negation, not the other way round.

There are various phases in Carnap's thought, such as the *Logische Aufbau* phase, the verificationist phase, the logical syntax phase, and the semantic frameworks phase, distinguished by James Conant (2001).[11] In view of Carnap's attitude toward metaphysics there are a few important articles in addition to "Überwindung der Metaphysik," namely, "Scheinprobleme in der Philosophie" (1928), "Von Gott und Seele. Scheinfragen in der Metaphysik und Theologie" (1929), "Die alte und die neue Logik" (1930), and "On the Character of Philosophic Problems" (1934).[12]

The first of these studies has to do with traditional metaphysical questions such as the existence of reality. In his 1929 paper Carnap continues with questions to which metaphysical statements seem to be answers, such as "Does God exist?" "If God exists, what is his essence?" and "Does a human being have a soul substance as a particular essence in addition to his or her living body?" Carnap states that the earlier anti-metaphysical doctrines answered these questions negatively. He continues that modern logic comes up with a radical result: we can neither say yes nor no to these questions, because they lack meaning (*Sinn*). In other words, they are pseudo-problems. What is peculiar in these statements in Carnap's view is that some words in each of these statements lack meaning, and that is the reason why the whole statement is meaningless. That a word

[10] See Friedman 1996.

[11] See Conant 2001, 15.

[12] The five articles are published in Carnap 2004. "On the Character of Philosophic Problems" was translated into German for this volume. It was originally published in *Philosophy of Science* 1 (1934): 1–19.

lacks meaning means here that it has no empirical content; it seeks to refer to something, but that something cannot be an object of perception. Therefore, the statement cannot be tested (in the case of an existential statement, it cannot be verified, not even in principle).[13] Carnap also pays attention to another category of pseudo-problems, where the words have meaning but the questions are so formulated that they turn out to be meaningless. In those questions words are put together that do not belong together. For example, we may combine the word "where" with words that express non-objectual concepts—we may say that someone has lost his courage, but we cannot then ask where the courage is now. Carnap says that a worse kind of pseudo-problem is one in which the word used has no meaning at all: "Alles, von dem man überhaupt sprechen kann, muss sich auf von mir Erlebtes zurückführen lassen."[14]

In 1931 Carnap stated that the difference between his view and those of earlier anti-metaphysicians is that for the earlier group, metaphysics was a fairy tale (Carnap 1931, 232). Fairy tales conflict not with logic but only with experience. They are meaningful but false. On Carnap's reconstruction of the arguments, such statements as "God exists" or "There is a God" would be false to earlier anti-metaphysicians because there is no such object of possible sensuous perception; such statements are meaningless to Carnap precisely for the same reason, because Carnap ties meaning to perceivability.

Carnap's view of nonsense is more complicated, as for him there are two kinds of nonsense. In the kind we have mainly discussed so far, the meaning of a word or words cannot be specified. In the other kind, the sequence of words does not accord with the rules of syntax. Carnap mentions two examples: (1) "Caesar is and" and (2) "Caesar is a prime number" (Carnap 1931, 227). In this connection James Conant uses the label "substantial nonsense" in his interpretation of Carnap, because the words have meaning but the combination does not (Conant 2001, 14). Substantial nonsense is composed of intelligible ingredients which are combined in an illegitimate way. Such statements as "Caesar is and" are nonsense for syntactic reasons, as individual words have meanings, either alone or in context. Statements such as "Caesar is a prime number" contain meaningful words, but they are nonsense for semantic reasons, because the combination is semantically faulty. Gabriel points out that for Frege a sentence such as "Caesar is a prime number" is not senseless, because there is no violation of logical syntax (Gabriel 2007, 71). He points out that both Carnap and Frege treat formal logic as the basis of categories, and hence as a transcendental logic in Kant's sense (ibid., 72). In Carnap's view, statements such as "God exists" contain meaningless words and for that reason

[13] Carnap, "Von Gott und Seele. Scheinfragen in Metaphysik und Theologie," in Carnap 2004, 52–53.
[14] Ibid., 50, 58.

are meaningless. For Frege, there is a problem when "exists" is used as if it were a non-empty first-order concept. Heidegger's statement "Nothing nothings" contains meaningful words in Carnap's view, but the syntax and the combination are problematic.

Carnap argues that if the meaning of a word cannot be specified, or if the sequence of words does not accord with the rules of syntax, then one has not even asked a question (Carnap 1931, 232). One of the syntactic problems may be the incorrect use of the word "being," or there may be type confusion, as it is the case with the statement "Caesar is a prime number." Carnap notes that one reaction against his view might be that human knowledge has limits, but that metaphysical doctrines are conjectures about the answers a higher being would give to our questions; hence metaphysical doctrines are meaningful doctrines, but they are answers to problems that we cannot solve (Carnap 1931, 232). However, as was already said, Carnap argues that if the meaning of a word cannot be specified, or if the sequence of words does not accord with the rules of syntax, then one has not even asked a question. That is, in Carnap's view we cannot even imagine how we could answer the question.

In his 1934 paper Carnap states that the logical analysis has shown that the pretended propositions of metaphysics are not propositions at all. He rules out all knowledge based on pure thinking or pure intuition, philosophy of norms and values, and ontological doctrines of all kinds. This follows from the view that there are no synthetic statements a priori. He also refers to Wittgenstein and states that in Wittgenstein's view non-metaphysical philosophy does not have propositions either.[15] Carnap thinks that there are no philosophical propositions. This is also essential to his criticism of metaphysics in general, not only against Heidegger's views.

7. JUDGING AND THE VERIDICAL USE OF "IS": ADDITIONAL REMARKS ON FREGE'S VIEW

For Carnap, logic shows that metaphysics is nonsense. We noted above that Frege held metaphysical doctrines and that his logical views ensued from those very doctrines; in that sense, his views deviated from those of Carnap and the Vienna Circle. That conclusion also supports the claim that in a certain sense Frege's thought was closer to Heidegger's than is often thought to be the case when Frege is regarded as an analytic philosopher and a companion of logical positivists. I have argued that for Frege there are certain categories of being. But what is being for him when it is detached from the categories? We cannot find any systematic considerations on this topic in his writings. However, in some of his papers he has remarks on the meaning of being that deserve attention.

[15] See Carnap, "On the Character of Philosophic Problems," in Carnap 2004, 8.

In his "Logik" (1897) Frege states that even where we use an expression of the form "It is true that . . ., " the assertoric force of the sentence ("die Form des Behauptungssatzes") is essential (NS, 140; "Logic," in PW, 129). In "Einleitung in die Logik" (1906), he remarks: "In fact at bottom the sentence 'It is true that 2 is prime' says no more than the sentence '2 is prime.' If in the first case we express a judgment, this is not because of the word 'true', but because of the assertoric force we give the word 'is'" (NS, 211; "Introduction to Logic," in PW, 194). In his "Meine grundlegenden logischen Einsichten" (1915) he writes: "In language assertoric force is bound up with the predicate" (NS, 272; "My basic logical insights," in PW, 252). Earlier in his "Was kann ich als Ergebnis meiner Arbeit ansehen?" (1906) Frege states that his most important discoveries are mostly tied up with his conceptual notation. He lists a concept construed as a function, a relation as a function of two arguments, the view that the extension of a concept or class is not the primary thing for him, the idea that both concepts and functions are unsaturated, and the recognition of the true nature of concept and function. He then points out that he should have begun by mentioning the judgment stroke, the dissociation of assertoric force from the predicate ("der Urteilsstrich, die Ablösung der behauptenden Kraft vom Prädikate"), and continues with the hypothetical mode of composition, generality, and the distinction between sense and reference (NS, 200; "What May I Regard as the Result of My Work?," in PW, 184).

What can be concluded from the above remarks? In an ideal language, every sentence starts with a sign that Frege called *Urteilsstrich*. Making a judgment is an act. The sign was left out after Frege (except for showing theoremhood), but for Frege it was the expression of "It is the case that . . .," "It is true that . . ." Kahn calls this meaning of "is" the veridical "is" (Kahn 1973, 331–70). If we are looking for Frege's answer to the question "What is being?" I would say on the basis of the writings quoted above that in his view we can talk about being only via asserting or judging—that is, via a certain kind of action. It is common to discuss assertoric force in connection with truth-theories. Being is often ignored. But the connection between judging and being became particularly important for Frege at the beginning of the twentieth century, when he looked back on what he had achieved. Frege saw in his writings something he had not stressed earlier. We could even argue that for Frege the linguistic turn was the view that being must be discussed in terms of asserting. There is no answer to the question "What is being?" independent of this context.

Does Frege hold the ambiguity thesis after all? He says that assertoric force (being) is detached from the predicate in his formula language. In a sense he does not hold the ambiguity thesis, as there is no ambiguity in assertoric force. The distinction between identity, predication, and class inclusion remains, but in all sentences that contain them, there is an element of assertoric force, which captures the concept of being. First-order existence, being identical with itself, can be treated along the same lines.

For example, we may assert as follows: "Obama's presidency is"; "The identity of the evening star and the morning star is"; "The subordination of the class of human beings to the class of animals is"; "The self-identity of Socrates is." What is left besides assertion, then, is existence as a second-order concept. But that is also a predicate, even if of a specific kind, and any judgment, any sentence of the formula language, that contains that predicate also has the assertoric force that lies in the word "is" of our natural language. An example of such a sentence of natural language would be "The being of philosophers is." Therefore, quite surprisingly, if there is ambiguity of "being," that is only between the second-order predicate and the assertoric force expressed by the vertical stroke in Frege's formula language.

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15

QUINE, PREDICATION, AND THE CATEGORIES OF BEING

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Metaphysics, as traditionally conceived, can be characterized as the systematic study of the most fundamental structure of reality. At the heart of the discipline lies general metaphysics, or ontology, whose task it is to chart the categories of being. W. V. Quine's relationship with first philosophy is a rather complicated matter, and the aim of this essay is to evaluate some of the various issues involved by focusing on the phenomenon of monadic predication in a non-modal context. Through a survey of Quine's relevant views, I shall argue that although initially there seem to be plausible historical reasons for perceiving Quine as a rehabilitator of metaphysics, in the end too much of his systematic thought remains anchored in the spheres of language and logic to sustain serious ambitions in the study of the categories of *being*. I will also suggest that this should then reflect both on our conception of the appropriate methodological approach to metaphysics and on our perception of Quine's role in twentieth-century philosophy.

1. QUINE AND THE REHABILITATION OF METAPHYSICS

To say something about the reasons for seeing Quine as a rehabilitator of metaphysics, I will begin by pointing out that there are at least four different ways in which he clearly did have an influence (cf. Koskinen 2004a). First, in Quine's (1980a, 20–46) holistic empiricism without the two dogmas of analyticity and reductionism, the supposed boundary between speculative metaphysics and natural science was blurred, and the abstract ontological questions ended up on a par with questions of natural science.[1] The

[1] Retrospecting the "Two Dogmas" forty years after its publication, Quine writes about the linkage of the two issues of ontology and analyticity: "Carnap's separation of questions of existence into questions of fact and questions of framework was a separation of the synthetic and the analytic. Collapse this epistemological duality and you collapse the ontological duality" (1991, 271). For a critical evaluation of the other effect of abandoning the two dogmas, or the shift toward pragmatism, see Koskinen and Pihlström 2006.

once expelled existence statements in the metaphysical vein thus returned to the sphere of philosophy (cf. Quine 1969, 97–98), and despite Carnap's dislike for the move, Quine (1976, 203) reinstated the fine old word "ontology."[2] Second, Quine formulated an explicit criterion of ontological commitment: "To be is to be the value of a [bound] variable." This idea was most notably expressed in 1948 in "On What There Is" (Quine 1980a, 1–19), and some even think that with this very article, Quine single-handedly made ontology a respectable subject for analytic philosophers (Putnam 2004, 78–79). Third, in addition to the use of formal logic, the respectable status of metaphysical inquiry was further enhanced by Quine's emphasis on strict methodological principles related with intellectual economy (cf. Quine 1976, 255–64) and an insistence on clear criteria of identity for postulated entities (cf. Quine 1981b, 100–12). The former notion is generally known as Ockham's Razor, while the latter point is expressed in another one of Quine's memorable dictums, "No entity without identity." Fourth and last, to the extent that he was sustainedly involved in propagating his own "desert landscape" ontology of physical objects and classes (cf., e.g., Quine 1960), Quine practiced what he preached, providing an example of how responsible metaphysics in the scientific context was to be conducted.[3]

Quine's role in the rehabilitation has been clearly recognized in recent literature, where he has been called a key contemporary American metaphysician (Canfield 1997, 9). His views on ontology have been seen to represent a serious concern with metaphysical questions in twentieth-century thought (Orenstein 2002, 67), and along with Strawson, Quine has been acknowledged as an especially influential figure in clearing away the anti-metaphysical spirit of logical positivism and ordinary-language philosophy (Loux and Zimmerman 2003, 2; cf. also Linsky 1997, 112–19). Quine himself talks unapologetically enough about limning the true and ultimate structure of reality (1960, 221), and his holistic philosophy seems quite capable of accommodating the abstract perspective of general metaphysics. Even Quine's famous repudiation of first philosophy (see, e.g., 1981b, 72) does not get in the way of all this, for the rejection is not directed against the Aristotelian *πρώτη φιλοσοφία* as the study of being qua being, but against the epistemic possibility of a Cartesian cosmic exile (Hookway 1992; cf. Koskinen 2004b).

Before we get too excited about Quine the metaphysician, however, we should remember that his ideas often arose from topics having to do with logic and set theory rather than with metaphysical discussions of a more traditional nature (Decock 2002, xiii, 2;

[2] In this essay, I shall focus entirely on Quine, and mention Carnap only in connection with Quine's background. For more on Carnap, see Leila Haaparanta's contribution in this volume.

[3] In connection with ontology, Quine talks about "the aesthetic sense of us who have a taste for desert landscapes" (1980a, 4). Strawson writes of the logician's landscape created by Quine: "With a Roman ruthlessness he makes a solitude in which he can quantify peacefully over lumps of rock" (1955, 229).

2004, 114). Because of this background, his ontological investigations are conducted from a distinctly logical point of view (cf. Quine 1980a), which, as we shall see, has far-reaching consequences for the whole enterprise. What should also be counted as relevant here is that by his own account, Quine was no champion of traditional metaphysics (Quine 1976, 204). Indeed, his thought contains features that make it very difficult, if not impossible, to maintain the focus of ontological inquiry on mind- or language-independent reality. This is because the Quinean take on metaphysics is constitutively based on the combination of a linguistic approach, an idiosyncratic philosophy of logic, and a sentence-based semantics and epistemology that lead to the eventual relativity and indifference of all ontology. As Herbert Hochberg (2003, 7) has pointed out, the focus on the world, as what words are about, is often lost as analytic philosophers concentrate on language itself. In the following, I shall try to show how this tends to happen in Quine.

Because of its intrinsic importance, close connections with other metaphysical topics, and usefulness in evaluating Quine's position, most of the discussion that follows will turn on predication, or what Quine's Harvard colleague D. C. Williams perceptively called the cardinal problem of first philosophy (Williams 1953, 3).[4] The plan is first to see how Quine shifts the attention from the world onto the level of language, and resorts in this connection to a very specific, ideal linguistic framework. In his philosophical interpretation of the logical framework, Quine is then seen to remove ontological responsibility first from the predicates and then from the names of his formal language, leaving at this stage the bound variables of quantification as the only referential links between words and objects. Finally, even the last remaining connection between language and world is severed as Quine brings in his structuralistic views emphasizing the primacy of true sentences. I will conclude my contribution by evaluating the adequacy of Quine's proposed remedy of naturalism, and by commenting on the relations between metaphysics and logic in his thought. The details of Quine's relevant views are relatively well known. What novelty I can claim for my own efforts comes from the expositional perspective together with the methodological and historical interpretations presented.

2. SEMANTIC ASCENT AND THE CANONICAL NOTATION

Despite its apparent innocence and well-meaning methodological motivation, the very first and crucial step on the road toward undermining the cause of metaphysics occurs when Quine shifts the focus from objects in the world to second-order issues concerning words (cf. 1980a, 1–19). In terms of predication, this means that instead of grappling

[4] As Williams explains, this is the problem of *substance and attribute*, or at any rate something cognate with this in the family of ideas also containing subsistence and inherence, subject and predicate, particular and universal, singular and general, individual and class, and matter and form (1953, 3).

directly with objects and their properties, or ontic predication, Quine characteristically approaches the issue through singular and general terms, or linguistic predication.[5] As is well known, he calls such a shift from talk of objects to talk of words the "semantic ascent" (1960, §56). However, after having begun his naturalistic philosophizing "in the middle," with ordinary things (1960, 1; cf. 1976, 228), and especially after having so influentially criticized the two dogmas of empiricism, with all the consequent distancing from Carnap, Quine's semantic ascension looks like a truly surprising reenactment of the linguistic turn. In this connection, he even refers approvingly to Carnap's distinction between the formal and the material mode (1960, 271–72).

The rationale for the semantic ascent comes from situations such as discussing the existence of miles, where the strategy is supposed to help us avoid "a jumble of invective and question-begging" (ibid., 272). When we thus ascend to talk of 'mile' and ask which of its contexts are useful and for what purposes, Quine thinks that we can actually get on and avoid the toils of our opposed uses. No doubt such second-order talk often does help when people are using words in differing or unclarified ways. It is not so obvious, however, that in a case such as predication, a move from the ontic to the linguistic level is of much real use—supposing that our original interest is properly metaphysical in the first place. This is because even after ascending to the level of singular and general terms, we still have to worry about the semantic descent and answer questions about the applicability and truthmakers of such linguistic items (cf. Armstrong 2004; Beebee and Dodd 2005; Strawson and Chakrabarti 2006). For Quine, as we shall see, the climb back down proves very hard indeed. After having gone up, he seems to kick away the ladder and remain trapped inside the linguistic framework.

In the linguistic sphere, not just any language will do the metaphysical job for Quine, who thinks that the common man's ontology is vague and untidy, and that a fenced ontology is just not implicit in ordinary language (1981b, 9).[6] In the contrast between the so-called ideal-language philosophers and ordinary-language philosophers (cf. Rorty 1992), this places Quine firmly into the former camp, again in company with Carnap. For ontological inquiries, Quine takes the canonical notation to be the first-order predicate calculus with identity. The primarily ontological function of this formal logical apparatus becomes very clearly expressed when Quine states that to paraphrase a sentence into the canonical notation of quantification is, first and foremost, to make

[5] This kind of direct approach in metaphysics is influentially exhibited in the work of David Armstrong (cf., e.g., 1978a, 1978b, 1989), who emphasizes a clear distinction between semantical and ontological issues, and decidedly focuses on the latter.

[6] Quine writes, "The idea of a boundary between being and nonbeing is a philosophical idea, an idea of technical science in a broad sense. Scientists and philosophers seek a comprehensive system of the world, and one that is oriented to reference even more squarely and utterly than ordinary language. Ontological concern is not a correction of a lay thought and practice; it is foreign to the lay culture, though an outgrowth of it" (1981b, 9).

its ontic content explicit (1960, 242). The explicitness of the ontic content is based on the already mentioned criterion of ontological commitment according to which to be is to be the value of a bound variable (cf. Quine 1976, 199; 1980a, 15). Another way of formulating the criterion would be to say that entities of a given sort are assumed by a theory if and only if some of them must be counted among the values of the variables in order that the statements affirmed in the theory be true (Quine 1980a, 103). This means that if we affirm, or our theory implies, for example, the sentence '$(\exists x)$ (x is prime $\wedge$ $x > 1{,}000{,}000$)', then we are committed to the existence of something that is prime and exceeds a million.[7]

How we are supposed to get from predicates and names to bound variables as the ontologically crucial elements of the canonical notation is something that will be dealt with in the next two sections. For now, let us just note that the use of Quine's criterion is based on the idea of a general semantical realism according to which truth is an objective language-world relation (cf. Niiniluoto 1999) together with the specific truth-conditions that can be given to logical formulas containing quantifiers, predicates, and variables. Sentences in the canonical notation then show us explicitly what the world must be like for our sentences to be true. This is also how our ontological commitments are taken to be revealed or explicated. At this stage, however, it is vital to have things in the right order, and to understand that Quine's criterion is not meant to imply a dependence of being upon language. Quine himself points out that even if the withdrawal to a semantical plane is taken to have certain advantages, we must not jump to the conclusion that what there is depends on words (1980a, 15–16). He emphasizes that we look to bound variables in connection with ontology not in order to know what there is, but in order to know what a given remark or doctrine says there is.[8] There is, then, a clear distinction between expressing an ontology and deciding on one (cf. Orenstein 2002; Glock 2003, 43; Koskinen 2004a, 136). Here, at least, it seems that Quine's thought is perfectly compatible with the kind of metaphysical realism that conceives being as generally independent of language or thought (cf. e.g. Loux 2006; Lowe 2006).

Unfortunately for metaphysical realism, there are other ways in which Quine does seem to make being dependent upon language. One of them is based on a feature of the canonical notation that Quine is especially fond of, namely, its extensionality (cf. 1994; 2001). This means that singular terms with the same designatum, predicates with all the same denotata, and sentences with the same truth-values can be substituted for each other

[7] Carnap (1956, 214 n. 3) gives Quine credit for being the first to recognize the importance of the introduction of variables as indicating the acceptance of entities (cf. also, e.g., Orenstein 2002, 11ff.).

[8] The risk of misinterpretation is greatly increased by casual formulations of Quine's views. Decock, for example, characterizes Quine's criterion by writing that according to it, "a thing exists, if it is a value of the variables of a logical theory" (2002, 1). For the serious metaphysician, existence is not to be had quite so easily.

without altering the truth-values of the larger contexts in which they appear. Quine (1995b, 90–91) expresses a commitment to extensionalism, or the predilection for extensional theories, and even goes so far as to claim that for him, extensionality constitutes a necessary intelligibility condition. This self-inflicted cognitive restriction means that if Quine fully understands a theory, then it is extensional, and (by contraposition) if a theory is not extensional, then Quine does not fully understand it. In a very graphic and revealing manner, Quine writes that "all of austere science submits pliantly to the Procrustean bed of predicate logic" (1987, 158). The main offenders creating intensional or non-extensional contexts are *de re* modal predications and propositional attitudes, and since these do not fit, by Quinean stipulation, they retain a more tentative and provisional status.

Another way in which Quine seems to make language rule over being is connected with the fact that for him, the logical framework not only serves as an explicatory instrument for the analysis of ontological problems but also comes to have a much stronger, even constitutive role for the whole enterprise. Since to be is to be the value of a variable, and the bound variable of quantification clarifies ontology by isolating the pure essence of objective reference (Quine 1985, 162), the fate of ontology is inevitably tied to the theoretical contribution of the variable. If we have a finite universe of named objects, for example, then there is no occasion for quantification except as an inessential abbreviation, because we can always expand quantifications in familiar ways into finite conjunctions and disjunctions. With the disappearance of variables, then, the question of a universe of values of variables disappears too, and in such a case, ontology becomes emphatically meaningless (Quine 1969, 62; cf. 1976, 216). As Quine puts the point, "A finite and listed ontology is no ontology" (1981b, 7). If 'ontology' is here taken to refer to the most fundamental structure of reality, and not to our theories concerning it, then Quine seems committed to a curious form of linguistic idealism, which, among other things, raises pressing questions about the possibility of ontology in small and charted worlds (cf., e.g., Black 2001; Barwise and Etchemendy 2000) as well as about the whole history of metaphysics before 1879.

3. THE ASSUMED ONTOLOGICAL INNOCENCE OF PREDICATES

Having followed Quine in making the semantic ascent and opting for the canonical notation within the sphere of language, we may now turn to the cardinal problem of first philosophy as it is discernible through linguistic predication. In the schematism of first-order logic, our subject-predicate discourse at its simplest is represented by well-formed formulas such as '*Fa*', where '*F*' is a predicate, '*a*' is a name, and there is no logical complexity involved in the form of sentence-connectives or variable-binding quantifiers. According to relatively straightforward semantical intuitions, the '*a*' refers to an object, the '*F*' to a property, and the linguistic predication '*Fa*' is true if and only if

at the level of ontic predication, that is, in the extra-linguistic reality, the property *F* is actually exemplified by, or true of, the object *a*.[9] Whether things really are this straightforward, and which metaphysical interpretation should be given to 'property' at the level of ontic predication (cf., e.g., Oliver 1996), are questions that are as important as they are difficult. Before going into the ontological analysis suggested by Quine, however, we should be mindful of the fact that our schematism also functions as a starting point for various traditional argumentation strategies for the existence of universals as the instantiable or repeatable entities (cf. Gracia 1988) that play the property role and lie behind our linguistic predicates. It is only against such a background that the full impact of Quine's nominalism is properly comprehensible.

It could be argued, then, that a plausible ontological interpretation of a linguistic predication such as '*Fa*' requires us to assume two different types of entities, the universals and the particulars, where the members of the former category of being are characterized by being instantiable and the latter by being non-instantiable in nature. Once we then observe that we may also encounter other true linguistic predications along the lines of '*Fb*', '*Fc*', . . ., '*Fn*', where '*F*' always performs the same function, we could argue that this implies objective similarity or attribute agreement in the extra-linguistic part of reality. If the universal *F* can be instantiated not only by *a* but also by *b*, *c*, and other particulars in addition to them, then it seems that we have reason to believe that there are repeatable universals capable of multiple instantiation. Universals may thus be argued to provide the ontological ground for the objective similarities that are so usefully traced by our linguistic predicates. In addition to the phenomena of predication and similarity, we may also observe that with the help of linguistic expressions such as '*F-ness*', we can perform acts of *abstract reference*, which seem to commit us to the existence of universals as the entities thereby referred to (cf. Loux 2006; Moreland 2001; Mellor and Oliver 1997).

Quine, however, will have none of this. In his conception, closely connected with the proposed criterion of ontological commitment, predicates such as '*F*' and '*G*' are not bindable variables, and therefore in no need of being regarded as anything else but dummy predicates, or blanks in a sentence diagram (1980a, 108).[10] Holding on to the

[9] Here it is important to be clear about the difference between the predicates "*x* is true" and "*x* is true of *y*." The former is ascribable to sentences, propositions, or some other truth-bearing entities, whereas the latter has to do with an ontic relation between entities such as properties and objects, universals and particulars, and so on.

[10] A similar treatment applies also to the schematic sentence letters of the propositional calculus. Quine writes: "The schematic letters '*p*', '*q*', etc. stand in schemata to take the place of component statements, just as the schematic letters '*F*', '*G*', etc. stand in schemata to take the place of predicates; and there is nothing in the logic of truth-functions or quantification to cause us to view statements or predicates as names of any entities, or to cause us to view these schematic letters as variables taking any such entities as values. It is only the bound variable that demands values" (1980a, 109). Cf. also Quine's "Ontological Remarks on the Propositional Calculus" (1976, 265–71).

realist distinction between our language and the world, it should be noted that from such a semantical account of the role of schematic letters alone, it does not yet follow that attributes in the sense of universals would not exist. Quine is clearly aware of this when he says that he denies that predicates are names without having to deny that there are such things as attributes (1986, 28). According to him, the latter is a separate issue, and even if we did accept the Quinean account of schematic predicate letters, we would still remain quite free to postulate attributes or universals simply by accepting them as values of our bound variables.[11] Although it can thus be said that Quine's criterion of ontological commitment leaves room for the possibility of postulating universals, we still have to recognize that the whole idea also denies or takes away in advance some of the central reasons for assuming the existence of universals. In this sense, then, Quine's criterion can hardly be considered a metaphysically neutral one (cf. Devitt 1980; Armstrong 1980; Quine 1980b; Raatikainen 2008). It might even be suspected of trying to solve a crucial metaphysical issue via the shortcut of a semantical postulation.

Supposing that we did go along with Quine's views on blanks in a sentence diagram, we could still raise a host of questions about the ontological ground of predication in connection with interpreted predicates such as 'red'. Why is it that this predicate applies to a certain individual? If the predicate applies to houses, roses, and sunsets, does there not have to be some kind of unity in diversity (cf. Armstrong 1989)? Could we not refer to this unity by speaking of redness? Again, Quine has no patience for this type of postulation. In his view, that 'red' is true of a house, a rose, or a sunset is simply to be taken as ultimate and irreducible (1980a, 10). For him, no real explanatory power is to be gained by positing an occult entity under the name of 'redness'. Even to say that red houses, roses, and sunsets have anything in common is just to indulge in a popular and misleading manner of speaking. Of course, it could be said that Quine is merely behaving the way a consistent nominalist should in terminating questions about the ontological ground of predication before they even get to be properly formulated, but for anyone with the slightest sympathy for properties, Quine's strategy is bound to appear deeply unsatisfactory.[12] One would certainly think it relevant to ask *why* we would not want to apply 'red' to completely arbitrary classes of objects such as {the Cathedral of Oviedo, the number nine, Quine's left hand during lunch with Jacques Lacan at the Harvard Faculty Club in 1975}. Primitive set-theoretical stipulations along the lines of the interpretation functions of formal semantics would seem to provide no answer at all.

Quine seems willing to place a quite strong reliance on his intellectual background as he tries to get along with sets or classes, which, according to him, are needed anyway

[11] Of course, in Quine's book these clearly are *entia non grata* (1960, §50).

[12] Whether this be in the form of concepts, tropes, or universals (cf., e.g., Tooley 1999).

for integrating the indispensable mathematics into our theoretical system of the world. Quine claims that it matters little whether we read '$x \in y$' as 'x is a member of the class y' or 'x has the property y' (1981a, 120). The only difference between classes and properties is said to be that classes are the same when their members are the same, whereas it is not universally conceded that properties are the same when possessed by the same objects. Thus it becomes clear that properties breach extensionality and offend Quine's extensionalism, which seems to work well enough in the austere sphere of mathematics.[13] Quine also states that classes may be thought of as properties if the latter are so qualified that they become identical when their instances are identical; that is, classes may be thought of as properties in abstraction from any differences that are not reflected in differences of instances (1981a, 120–21).[14] Classes then obtain the status of properties minus discrimination of coextensives (Quine 1987, 24). But it is precisely because of the differences between the two that it is so hard to see how classes could be made to do the work of properties (cf. Armstrong 1978a, 28–43). Quine's talk of classes as properties minus discrimination of coextensives does nothing to alleviate these difficulties, and amounts to little more than a mere insistence on class nominalism (cf., however, Quine 1960, 243; Quine 1980b; Koskinen 2004a, 188–97).

4. QUINIZING THE NAME AND RUSSELLING AWAY THE DESCRIPTION

If we take the semantical formula "To be is to be the value of a variable" seriously, then perhaps we should not be very surprised by the fact that in the Quinean approach, a linguistic predication such as '*Fa*' does not wear its ontological commitments on its sleeve. We have just seen how Quine removes ontological responsibility from predicates and tries to replace properties with sets. Now we shall turn to the other half of our initial schematic predication, the name. As it turns out, in Quine's view, names are altogether immaterial to the ontological issue (1980a, 12), which is a conception that might seem even more unintuitive than Quine's ruling on predicates. Whatever we

[13] Cf. the way in which Decock writes about Quine's extensionalism: "Roughly, the thesis expresses the view that there is nothing to a class but its members. This means that a class is the collection of its elements only, and that there is no 'idea' behind a class that is satisfied by all the elements" (2002, 47).

[14] Geach parodies Quine's strange notion of abstraction, and introduces a new term, "surman," explaining its relation to the term "man" as follows: "There is little reason to distinguish surmen from men; it matters little whether we say 'Smith is a surman' or 'Smith is a man.' If there is any difference between surmen and men, it is merely this: surmen are the same when their surnames are the same, whereas it is not universally conceded that men are the same when they have the same surname. But surmen may be thought of as men if the latter notion is so qualified that men become identical when their surnames are identical. Surmen may be thought of as men in abstraction from any differences which are not reflected in differences of surname" (1953, 361).

may think of the idea itself, the relevant procedure of "Quinizing the name and Russelling away the description" (Grayling 1997, 97) can be neatly illustrated with five simple steps in elementary logic:

(1) Fa
(2) $(\exists x)\,(Fx \wedge a = x)$
(3) A: $a =$
(4) $(\exists x)\,(Ax \wedge Fx)$
(5) $(\exists x)\,(Ax \wedge (\forall y)\,(Ay \rightarrow x = y) \wedge Fx)$

In (1), we start with our familiar singular predicative sentence whose construction involves only a name and a predicate. This can be thought of as any sentence containing a name '*a*' (cf. Quine 1986, 25). The underlying principle in the process of converting the name into a description, or "Quinizing the name," is the equivalence between (1) and (2) (cf. Quine 1992a, 28). This equivalence allows us to maneuver every occurrence of '*a*' into the context '*a* =', and to see that the former need not ever occur except in the latter. We can then treat the context '*a* =' as a simple and indissoluble predicate '*A*', wherein the separate relative 'is' of identity has become the copulative 'is' of predication (cf. Haaparanta 1985, 1986).[15] In order to turn a name into a description, which can then be "Russelled away," one needs to find a suitable predicate, or a cluster of them, for the purpose. As the discussion surrounding proper names has shown, this can be a tricky business. Quine's radical view is that each name determines a monadic predicate that is satisfied by exactly one object (cf. Decock 1999). With the help of the monadic predicate '*A*' introduced in (3), (2) gives way to (4), where the predicate is true solely of the object *a* of (1) (cf. Quine 1986, 25).

The advantage of (4) over (1) is that when the new monadic predicate is combined with the variable and the binding quantifier, the existential assumption implicit in the use of the original name becomes explicit (cf. Quine 1960, 187). However, what still remains hidden in (4) is the uniqueness of reference that is also implicit in the use of names such as '*a*'. To bring this uniqueness assumption clearly out into the open, we have to add an explicit clause to this effect and expand into (5), which has three conjuncts: the first

[15] As Quine puts it in *Word and Object* (1960, 179): "The equation '$x = a$' is reparsed in effect as a predication '$x = a$' where '$= a$' is the verb, the '*F*' of '*Fx*'. Or look at it as follows. What was in words 'x is Socrates' and in symbols 'x = Socrates' is now in words still 'x is Socrates,' but the 'is' ceases to be treated as a separate relative term '='. The 'is' is now treated as a copula which, as in 'is mortal' and 'is a man,' serves merely to give a general term the form of a verb and so suit it to predicative position. 'Socrates' becomes a general term that is true of just one object, but general in being treated henceforward as grammatically admissible in predicative position and not in positions suitable for variables. It comes to play the role of the '*F*' of '*Fa*' and ceases to play that of the '*a*'."

explicates the existence assumption, the second explicates the uniqueness assumption, and the third one takes care of the original predication of '*F*' to the object *a*.[16] In this way, the Quinean analysis nicely explicates central assumptions implicit in the use of names while at the same time making the final result in (5) conform with the linguistic criterion of ontological commitment. There are no names left to confuse our ontological thinking, and as we saw in the previous section, predicates are taken to be ontologically innocent, which naturally applies also to '*A*', the Quinized name.[17] Just as expected on the basis of the criterion of ontological commitment, then, variables are the only remaining link between words and objects (cf. Quine 1992a, 28).

One thing that becomes immediately obvious as we contrast the analysandum of (1) with the analysans of (5) is that in comparison with the sweet simplicity of the former's name and predicate, the latter is a remarkably complex expression involving quantifiers, variables, connectives, and the identity predicate. The difficulty of working with such complexity is duly recognized by Quine (e.g., 1987, 195), who admits that mathematics would be immobilized by the straitjacket of predicate logic without singular terms. Thus, although all names can in principle be eliminated, the use of names and other singular terms is indispensable in practice (Quine 1960, 188). The fact that Quine does not want to put any methodological straitjacket on mathematics even if he seems quite happy to force other fields into his extensionalistic Procrustean bed could perhaps be seen as another indication of his theoretical favoritism based on the intellectual background in logic, set theory, and the foundations of mathematics (cf. Strawson 1955, 232–33; Quine 1969; Quine 1980a).

We might also have serious doubts concerning the real metaphysical significance of eliminating names when this happens with the apparent ease of step (3) above. It is hard not to think that although for Quine this might look like a way of eating one's cake and having it too (cf. 1960, 189), the introduced predicate '*A*' merely constitutes a poor notational camouflage when the meaning of the predicate has to be explained with '*a* =' anyway. It could be argued, then, that a proper understanding of a new Quinized name such as 'socratizes' presupposes an understanding of 'is identical with Socrates', and hence also of the old component name 'Socrates'. Moreover, the reliance on '*a* =' or 'is identical with Socrates' raises questions about a possible commitment to haecceities or thisnesses, since such expressions seem to be associated with properties that are essential to their owners and essentially unique to them (cf. Plantinga 1995; Rosenkrantz 1993).

[16] It may be noted that (5) is equivalent to the simpler '$(\exists x)\ ((\forall y)\ (Ay \leftrightarrow x = y) \wedge Fx)$', but as explained, the conjuncts of (5) are more useful in making the existence and uniqueness assumptions associated with the use of names immediately obvious.

[17] In "On What There Is," Quine (1980a, 1–19) presents his elimination of names as a solution to the Platonic riddle of non-being, which concerns the use of names such as 'Pegasus' that do not refer to anything.

Even if Quine's views on properties were accepted, (3) relies, at the very least, on a haecceitistic extension of our lexicon of predicates. Yet another complication is that if the mere eliminability of names would be seen as a proof of their ontological innocence, then exactly the same could be said of the variables themselves, because they too are eliminable features of the formal language of logic (cf. Quine 1995a, 227–35).

Despite such difficulties, in accordance with his criterion of ontological commitment, Quine insists on making the humble variable bear the cosmic burden of being, however unintuitive this might seem (1995b, 33).[18] Even Quine himself admits that one thinks of reference first and foremost as relating names and other singular terms to their objects (1992a, 27). It is no wonder, then, that it has also been argued that Quine's conclusion according to which ontological questions do not arise for singular predicative statements such as '*Fa*' is a *reductio ad absurdum* of his position because it wrongly sets aside singular terms in favor of quantification and ignores the existential implications of predicates (Glock 2003, 41, 55). What is significant for the fate of realist metaphysics, however, is that at this point, there still remains some referential connection between our language and the world, even if this hangs by the variable and we need all the logical apparatus of (5) just to effect a simple linguistic predication such as (1).

5. THE SEMANTIC AND EPISTEMIC PRIMACY OF TRUE SENTENCES

In the Quinean scheme of things, there are three species of reference: denotation, or reference by general terms; designation, or reference by singular terms; and the taking of values by variables. Having severed the direct referential links of predicates and names with the extra-linguistic reality, Quine delivers the final blow to realist metaphysics by disconnecting even the bound variables of quantification. After this move, reference becomes completely inscrutable (cf. Quine 1969, 35), and all connections between words and objects are lost. We see Quine ascending to the level of language, choosing a privileged linguistic framework, and then interpreting its elements in such a non-referential manner that he ends up with what looks very much like Carnap's position minus the tolerance for frameworks: external questions concerning reality beyond the sphere of language once more acquire the status of pseudo-questions, metaphysical in a bad sense.

[18] Quine admits that his criterion of ontological commitment is parochial in that it applies directly only to theories constructed within the framework of classical quantification theory or predicate logic. He continues, however: "Theories with access to other resources present a problem of foreign exchange. Failing translation into my adopted standard, I can only say that the word 'exists' has a different usage, if any, in that quarter. Given translation, on the other hand, the criterion simply carries over" (1995b, 33).

But how are we supposed to end up with such a barren scene? Why is it that linguistic predication, even in the complex form of (5), is eventually disconnected from ontic predication? Surely Quine must have good reasons for such a momentous move, which not only discards the natural connection between words and objects but also implies that his very own criterion of ontological commitment becomes effectively useless. The justification for this move comes from Quine's emphasis on the semantic and epistemic primacy of true sentences, and the fact that in all three cases, denotation, designation, and the taking of values by variables, reference is performed by sub-sentential elements of language. In Quine's thought, there is a very close connection between semantics and epistemology. He tends to identify language and theory with each other because both are built on the same foundation of observation sentences.[19] This constitutes yet another application of Quine's semantic ascent: when he deals with our processes of language learning and theory formation, he begins not with cognitive organisms and their surroundings (as a psychologist might) or with objects and their properties (as a metaphysician might), but with language, and more specifically with holophrastic observation sentences that are just true or false *simpliciter*. This linguistic starting point ties in with Quine's behaviorism and has the startling implication that the means by which language comes into contact with the world is not referential to begin with. As Peter Hylton nicely phrases the idea, "Acceptance of sentences is prior to reference, and truth is prior to existence" (2004, 122).

Since going more deeply into the details of Quine's theory of language learning and reification would constitute too much of a digression in the present context,[20] let us just have a look at three logico-semantical considerations that are related with the primacy of true sentences and, for Quine, point toward ontological relativity (1969, 26–68) or global ontological structuralism (1992b). These have to do with mathematical structuralism, the difference between 'Gavagai' the observation sentence and 'gavagai' the term, and the idea of proxy functions (cf. Orenstein 2002, 67–71). In the philosophy of mathematics, the primacy of true sentences means that because numbers can be construed in different ways that equally well preserve the truths of arithmetic, it doesn't matter which objects we take as values of the variables (cf. Quine 1976, 212–20). Since both Frege-Russell sets and

[19] In *The Roots of Reference*, Quine writes: "The two roles of observations, their role in the support of theory and their role in the learning of language, are inseparable. . . . The meaning of a sentence lies in the observations that would support or refute it. To learn a language is to learn the meaning of its sentences, and hence to learn what observations to count as evidence for and against them. The evidence relation and the semantical relation of observation to theory are coextensive" (1974, 38).

[20] For more on these, see, e.g., (Quine 1960, ch. III; 1974). A connection between Quine's behavioristic responses of affirmation and negation to holophrastic observation sentences on one hand and the logic of truth-functions on the other can be seen in the way that the propositional variables can be replaced with just truth (T) and falsehood (⊥) in the interpretation of logical schemata (cf. Quine 1982, 33ff.).

von Neumann sets can thus be used in constructing a structure-preserving model of the natural numbers, it is meaningless to ask which provides, for example, the real number 7. Here one is easily reminded of Carnap's external pseudo-questions (1956, 205–21).

In connection with Quine's own famous example of 'gavagai' (1960, ch. II), the semantic and epistemic primacy of true sentences means that the field linguist's translational evidence is limited to the native's responses to the whole observation sentence 'Gavagai'. This still leaves open the issue of what to take as reference of the sub-sentential term 'gavagai'. As Quine points out, the only difference between rabbits, undetached rabbit parts, and rabbit stages is in their individuation (1969, 32). Our conceptual apparatus of individuation, which consists of pronouns, pluralization, identity, numerals, and so on, is not given in the evidence or at the fundamental semantic level, but comes as a part of man's constructive contribution. Choosing "how to slice it" (cf. ibid. and Lowe 2009) thus takes place in the maneuvering space left for us when we subtract our input from our output or our stimulus from our science (cf. Quine 1995b).

With proxy functions, the inscrutability of reference can be demonstrated by starting from a simple predicative sentence such as 'This squirrel is fluffy'. In what we might call a normal interpretation, the semantics is such that the sentence is true if and only if the individual object to which 'this squirrel' refers belongs to the class of fluffy things. In an alternative interpretation based on cosmic complements, our sentence is true if and only if the entire cosmos minus this squirrel belongs to the class of the cosmic complements of individual fluffy things. By proxying both sides of the predication, we effect a one-to-one reinterpretation that preserves the truth of the original sentence. When acceptance of sentences is deemed prior to reference and truth prior to existence, it becomes an error to speak as if there were uniquely correct referents behind our singular and general terms or variables bound by quantifiers. What is primary and what really matters is preserving the truth of holophrastic sentences.

As a consequence of all this, Quine ends up with ontological relativity or global ontological structuralism, saying things such as "Structure is what matters to a theory, and not the choice of its objects" (1981b, 20), or even more concisely, "Save the structure and you save all" (1992b, 8). Such exclamations make him sound more like a member of the Vienna Circle (see, e.g., Neurath, Hahn, and Carnap 1973) than a rehabilitator of serious metaphysics.[21] What we are left with after Quine's semantic ascent to the level of language and his interpretation of the elements of the canonical notation is the pure logical structure of our theory, while the extra-linguistic reality drops completely out of the picture. Objects become mere neutral nodes in the logical structure, and Quine

[21] Of course, Carnap was arguably the central intellectual figure of the Vienna Circle, and Quine considered Carnap to be his greatest teacher (see Quine 1976, 41). Quine also actually gave a talk to Schlick's circle at Vienna on January 20, 1933 (see Quine 1985, 95).

even goes so far as to say that he no longer sees reference, reification, and ontology as a goal of science at all, but rather as a spin-off of quantification and the variables, these being in turn a mere technical aid in forging logical links between observation sentences and theoretical sentences (1998, 115).[22] At this point, the referential connections between words and objects seem truly lost (cf. Schaffer 2009, 349–50 n. 2). If, however, as globally realist metaphysicians, we wish to be involved in the systematic study of the most fundamental structure of reality, or the categories of being, this is a very problematic conclusion indeed.

6. NATURALISM, METAPHYSICS, AND LOGIC

Having now completed our story of how the combination of a linguistic approach, an idiosyncratic philosophy of logic, and a sentence-based semantics cum epistemology leads to a focus on language and then gradually disconnects it from the extra-linguistic reality, it has to be noted that once again, Quine seems clearly aware of the potentially disturbing features of his thought. After saying that the objects or values of variables serve merely as indices and that we may permute or supplant them as we please as long as the sentence-to-sentence structure is preserved, Quine asks how is all this to be reconciled with his "robust realism" and his "unswerving belief in external things" (1981b, 21). The answer, Quine suggests, is naturalism, or the recognition that it is within science itself, and not in some prior philosophy, that reality is to be identified and described.

The proposed solution involves at least two central aspects. On one hand, truth is seen as immanent, meaning that we must always speak from within a theory and that there is no higher, transcendental point of view to adopt. On the other hand, Quine says that the semantical considerations that seem to undermine realism are actually concerned not with assessing reality but with analyzing method and evidence, thus properly belonging not to ontology but to the epistemology of ontology (Quine 1981b, 1992b). It may still be asked, however, whether a robustly realist ontology and an epistemology that leads to global ontological structuralism can consistently co-exist as elements of the same philosophical position or whether they just pull too strongly into opposite directions. There certainly seem to be grounds for thinking that despite Quine's attempt to patch things up, the latter in effect turns out to be the case. It is one thing to recognize the perfectly legitimate point that ontology and epistemology are answerable to each other, and quite another to try to match together an epistemology

[22] In the manifesto of the Vienna Circle, whose general program was militantly anti-metaphysical, it is clearly stated that "scientific description can contain only the *structure* (form of order) of objects, not their 'essence.' What unites men in language are structural formulae; in them the content of the common knowledge of men presents itself" (Neurath, Hahn, and Carnap 1973, 309–10).

and an ontology that seem so obviously incompatible.[23] Therefore, it can be argued that Quine's intellectually enforced solution simply cannot be made to work. Calling naturalism to the rescue at a point where all referential connections between words and objects have been severed and a healthy sense of reality has been lost seems just too ad hoc to constitute a plausible philosophical move.[24]

The incompatibility of Quine's robust realism with his epistemology of ontology becomes clearly visible in connection with the first central aspect of the suggested naturalistic solution. If truth is indeed immanent and we must always speak from within a theory, then does this not apply to ontology as well? If we are limning the true and ultimate structure of reality or charting the categories of being, then should we not try to theorize about these general features of reality as directly as possible, despite their abstract nature and the fact that they are, as Aristotle (*Met*. I.2, 982a, 25) puts it, "furthest from the senses"? It could be argued that the very idea of a semantic ascent commits us precisely to the adoption of a higher, transcendental point of view from which we should then try to stipulate metaphysical interpretations of the logical elements of language in the Quinean fashion. Why not recognize instead that metaphysics has its own proper field of inquiry and that it operates with distinct theoretical apparatus that is not essentially linguistic, conceptual, or logical in nature (cf. Lowe 2006, ch.4)? It certainly seems that the rehabilitation of serious metaphysics would be much better served by such a direct approach, which keeps its eye firmly on the categories of being, their existence and identity conditions, and relations of ontological priority (cf. Loux 2006; Fine 1995; Correia 2008).

As we have seen, Quine's adherence to the language of first-order logic as a methodological starting point in metaphysics has various consequences (cf. Glock 2003, 14; Linsky 1997, 115), and despite some claims to the contrary (Hylton 1998, 50–52; cf. Koskinen 2010), his conception of logical analysis is far from a casual affair without theoretical commitments (cf. also Schaffer 2009). Although it would doubtless be desirable to have a theoretically neutral and structurally explicit logical instrument at one's disposal when dealing with metaphysical issues (cf. Koskinen 2004a, 136), it seems that from what has been observed so far, we may safely conclude that Quine's canonical notation cannot live up to such an ideal. It also seems reasonable to assume that the trouble lies not with the specific formal language that Quine uses, but rather with the more general ideas of semantic ascent and canonical notation themselves. Even if the linguistic turn has taught us that questions of meaning precede questions of truth, and that we may occasionally hope to gain some

[23] In his exposition and defense of the Quinean position, Roger F. Gibson (e.g., 1982) has often emphasized the Quinean idea of the "reciprocal containment" of epistemology and ontology.

[24] As will become obvious from a comparison with my earlier writings (see, e.g., Koskinen 2004a, 2004b, 2006, 2010), I no longer think that Quine can be quite so easily seen as a proponent of globally realist metaphysics.

illumination from switching to a formal mode, it is very hard to see how a prioritized focus on language or a reliance on a linguistic criterion of ontological commitment could get any real work in metaphysics done (cf. Cameron 2010). We may of course always look to syntactical and semantical structures to get a better grip on the underlying ontological issues, but the hope that we could somehow unproblematically read the fundamental structure of reality from the logical structure of our language is surely in vain.[25] Since we cannot hope to derive answers to ontological problems directly from our linguistic practices, we have no option but to take the discipline of metaphysics with full seriousness (cf. Varzi 2002, 74) and to recognize its relatively independent status as a legitimate field of abstract inquiry.[26]

The inherent methodological problems in Quine's approach to metaphysics should also reflect on our perception of his significance and historical role in the twentieth-century analytic tradition. Even though, as pointed out in the beginning, there are various reasons for seeing Quine as an influential rehabilitator of metaphysics, it seems that in the final evaluation, his position turns out to contain too many anti-metaphysical aspects that keep pulling him back to the linguistic sphere and which also preclude him from making a final breakthrough to metaphysics. Therefore, in some ways, Quine could be seen as the Moses of metaphysics: He is a leading figure who frees the philosophical community from the captivity of the linguistic turn and leads his people toward the promised land, but he doesn't quite get there himself.[27] As with Moses and the call from God, there is some hesitation and reluctance also in Quine's undertaking of the cause of metaphysics. Like Moses, Quine too fails at a critical moment, which then results in his not reaching the land of milk and honey, although he gets to see it from a mountain. The failure of Moses was that he did not sanctify the Lord in the eyes of the children of Israel, whereas the failure of Quine results from his inherited concentration on language and logic instead of the categories of *being*. This is also why it is of crucial importance not to remain where Quine does but to go decisively beyond him and to descend from the semantic mountain into the promised land of metaphysics.

[25] Cf., e.g., the discussion of the assumed ontological innocence of predicates in section 3 above.

[26] In his nicely argued and methodologically illuminating paper, Varzi writes, "Let us theorize explicitly about what there is rather than attribute our views to the language that we speak, and hence to the speakers who share our language" (2002, 60–61).

[27] In a Finnish collection of metaphysical essays (*Metafyysisiä esseitä*, Helsinki University Press, 1999, 3), S. Albert Kivinen reminisces about the late 1950s and mentions that in Professor Oiva Ketonen's seminars at the University of Helsinki, Quine opened the gates of Carnap's concentration camp, making ontology a subject that could be discussed again (cf. Kivinen 1981; Chalmers, Manley, and Wasserman 2009). My idea of comparing Quine to Moses arose from these associations together with the fact that Paavo Lipponen, a longtime prime minister of Finland (1995–2003), was also called "Moses."

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16

WILFRID SELLARS'S ANTI-DESCRIPTIVISM

Kevin Scharp

Fezzik: He's got very good arms.
Vizzini: He didn't fall? Inconceivable!
Inigo: You keep using that word. I do not think it means what you think it means.
—From The Princess Bride (1987)

1. INTRODUCTION

In the late 1960s and early 1970s the work of Saul Kripke, Hilary Putnam, David Kaplan, and others issued in a revolution in metaphysics, epistemology, philosophy of language, and philosophy of mind. Their insights have been taken up and extended by a group of contemporary philosophers led by Scott Soames and Nathan Salmon. This tradition has come to be known as anti-descriptivism. It encompasses some of the most hotly debated topics in philosophy today, including semantic externalism, epistemological externalism, functionalism, direct reference, and the relation between conceivability and possibility.[1]

[1] For the works of the early anti-descriptivists, see Kripke 1963, 1980, 1979a, 1979b; Putnam 1975a, 1975c, 1975e, 1975f, 1990; Kaplan 1979a, 1979b, 1989a, 1989b; Donnellan 1966, 1970. See Soames 2002, 2003b, 2005 and Salmon 1986, 1989 for contemporary anti-descriptivist views. Semantic externalism is the theory that the meanings of some words and the contents of some mental states are determined in part by their physical or social environment; see Putnam 1975b, Burge 1979, and Davidson 2001 for discussion. Epistemological externalism is the theory that whether a belief is justified can depend in part on features of the believer's physical or social environment; see BonJour 2002 for an overview. Functionalism is the view that mental states can be explained in terms of the way they function in a cognitive system; see Block 1980 for an overview. Direct reference is the theory that the meaning of proper names and some predicates are their referents (i.e., there is no distinction between meaning and reference for these expressions); see Salmon 1986, Kaplan 1989a, Recanati 1993, and Soames 2002 for discussion. For discussion of the relation between conceivability and possibility, see the introduction to and the papers contained in Hawthorne and Gendler 2002.

At the same time Kripke, Putnam, and Kaplan were presenting their groundbreaking views, another philosopher was busy working out his own philosophical system: Wilfrid Sellars. Sellars is rarely a topic of contemporary philosophical discussions, and when he is, he is usually mentioned as an early functionalist, as a staunch scientific realist, or for his attack on appeals to givenness in epistemology and philosophy of mind.[2] Of course, Sellars's philosophical corpus is not limited to these doctrines—he presented and defended a remarkable number of original claims. Indeed, some of Sellars's views bear a striking resemblance to the revolutionary conclusions drawn by Kripke, Putnam, and the other anti-descriptivists. I argue that when one focuses on these claims and their roles in Sellars's large-scale accounts of language and the mind, one arrives at a reading of Sellars on which he is a member of the anti-descriptivist tradition. However, Sellars's reasons for endorsing his anti-descriptivist conclusions are different from the reasons given by more familiar anti-descriptivists, and many of Sellars's claims about related philosophical issues differ dramatically from those endorsed by the other anti-descriptivists; hence, Sellars's anti-descriptivism is quite unique, and it represents an important alternative to the more familiar versions.

My goal in this paper is to identify Sellars's anti-descriptivist views, explain their place in his philosophical system, and compare and contrast them with more common anti-descriptivist theories. In the first section, I provide an overview of the anti-descriptivist tradition. In section 2, I present an outline of Sellars's account of language and the mind, and the role of his anti-descriptivist views in that account. Section 3 is more speculative; in it, I present what I take to be a Sellarsian analysis of an important anti-descriptivist issue: the relation between metaphysical modal notions (e.g., possibility) and epistemic modal notions (e.g., conceivability). The account I present involves extension of the strategy he uses to explain both the relation between physical object concepts (e.g., whiteness) and sensation concepts (e.g., the appearance of whiteness), and the relation between concepts that apply to linguistic activity (e.g., sentential meaning) and those that apply to conceptual activity (e.g., thought content).[3]

[2] For his views on functionalism, see Sellars 1954, 1964, 1974a. For his defense of scientific realism, see Sellars 1961, 1962a, 1965, 1976. For his attack on the myth of the given, see Sellars 1956, 1973, 1975a, 1979, 1981a. (Note that I will be referring to Sellars's works by their date of original publication, though many have been reprinted, as described in the references.)

[3] Throughout this essay, I try to point the reader in the direction of the relevant texts by Sellars and other anti-descriptivists; however, I do not attempt to summarize or cite the relevant secondary literature on Sellars.

2. THE ANTI-DESCRIPTIVIST TRADITION[4]

As the name indicates, anti-descriptivism is characterized by a rejection of a certain philosophical doctrine, descriptivism, which was immensely influential in the first half of the twentieth century. Contemporary descriptivism originated in the work of Frege and Russell; in particular, it arose out of their solutions to several outstanding problems in the explanation of language. One of the most famous is how it can be that one identity claim (e.g., "Hesperus = Hesperus") is uninformative and can be known a priori, while another identity claim that results from substituting a co-referring name in the first (e.g., "Hesperus = Phosphorus") is informative and is known a posteriori. Frege and Russell solved these puzzles by assuming that linguistic expressions have two semantically relevant features: meaning and reference. The meaning of a linguistic expression is what a speaker grasps when she understands that expression, while its reference is a relation between the expression and one or more objects. In the case of proper names (e.g., "London"), the meaning is identical to the meaning of a definite description (e.g., "the largest city in England"). If some unique object satisfies the description, then it is the referent of the name; otherwise, the name has a meaning but no referent. One can give a similar analysis of natural-kind terms (e.g., "cat") and other predicates by treating their meanings as descriptive conditions (e.g., "domesticated feline") that determine their extensions (e.g., the set of cats).[5]

When combined with other intuitive views on the nature of language and the mind, this account of the semantic features of linguistic expressions constitutes a powerful theory with far-reaching consequences. The resulting picture of language has come to be known as descriptivism. The following are five tenets of descriptivism as explicated by Soames:

1. One must distinguish between the meaning of a linguistic expression and its referent; for most any linguistic expression (including proper names), its meaning is given by a description, which determines its referent.
2. Understanding a linguistic expression consists in mentally grasping its meaning and associating this meaning with the expression.
3. Meaning is transparent; that is, if two linguistic expressions have the same meaning, then anyone who understands them can tell that this is the case. (Because

[4] Scott Soames has recently published three excellent books on the anti-descriptivist tradition in philosophy, and the overview I give in this section owes much to his exposition; see Soames 2002, 2003b, 2005. Of course, there is much in Soames's presentation with which I take issue, but his account should serve my purposes; a full reconstruction of the anti-descriptivist tradition is beyond the scope of this essay.

[5] See Frege 1980 and Russell 1905, 1910; see Soames 2003a for discussion.

anyone who understands an expression mentally grasps its meaning and associates that meaning with the expression, a person who understands two expressions can tell whether he has mentally grasped the same meaning and associated it with each of them.)

4. The meaning of a linguistic expression and the content of a mental state it expresses are determined entirely by internal features of the person in question. (Because the meaning of an expression is something that is mentally grasped by someone who comprehends the language in question, a person's physical and social environments have no direct impact on the meanings of her expressions.)
5. A proposition is a priori if and only if it is necessary; both apriority and necessity are explained in terms of meaning. (Because the meaning of an expression is something that is mentally grasped by someone who comprehends the language in question, simply comprehending a language enables one to know certain truths that are grounded in the meanings of the expressions of that language.)[6]

Although descriptivists differ on the details of how these principles are to be worked out, and it is not the case that all descriptivists accept all of them, the general picture of how linguistic expressions function and how they relate both to the minds of those who comprehend them and to the objects in the world was the received view in analytic philosophy from the beginning of the twentieth century until the late 1960s.

Kripke is perhaps the most famous opponent of descriptivism—the force and clarity of his criticisms have been immensely influential. Kripke argues that if names had descriptive meanings, then sentences containing names (or the propositions expressed by them) would have modal and epistemic properties that are different from the ones they actually have. Moreover, he denies that the referent of a name is determined by a definite description (or cluster of definite descriptions). For example, if a name, "Clancy," is synonymous with a definite description, "the chief of the Springfield police department," then the proposition expressed by "If Clancy exists, then Clancy is the chief of the Springfield police department" is necessary and a priori.[7] However, Clancy might not have been the chief of the Springfield police department. Hence, the proposition in question is not necessary. Moreover, a person's justification for the belief that if Clancy exists, then he is the chief of the Springfield police department will certainly depend on empirical evidence; hence, the proposition in question is not known a

[6] Soames 2005: 1–2. Soames actually lists seven tenets (including anti-essentialism and the claim that the aim of philosophy is conceptual analysis), but I am not concerned with these issues in this paper.

[7] I assume that modal properties are properties of propositions. There are several popular theories of propositions, but for my purposes, it does not matter which one is correct; see Soames 2002 and Schiffer 2003 for discussion.

priori. In addition, if the referent of "Clancy" is whatever satisfies "the chief of the Springfield police department," then understanding "Clancy" would require knowing that its referent is fixed by this definite description, which is clearly not correct.[8]

In place of descriptivism with respect to names, Kripke suggests that names are rigid designators. That is, a name refers to the same object in all possible worlds in which that object exists, and the name never refers to anything else. Moreover, he offers an alternative account of how the referents of names are fixed, on which the referent of a name is the object that initiated a chain of reference transmissions. The chains usually begin with a person proposing a name for an object; people use the name to refer to that object without associating any particular description or cluster of descriptions with the name. Other people can learn to use the name too; the name refers to the original object so long as a person intends to use it with the same reference as did the person from whom he learned the name. In this way, the name comes to be used by people further down the chain without the help of definite descriptions.

David Kaplan proposes similar objections to the descriptivist theory of indexicals and demonstratives. He argues that indexicals and demonstratives are not synonymous with descriptions and that their referents are not determined by descriptions. In place of the descriptivist theory, he offers an account of indexicals and demonstratives on which they are rigid designators. He goes beyond Kripke's views by endorsing a direct reference theory of indexicals and demonstratives. For Kaplan, the content of an indexical or demonstrative just is its referent.[9] Thus, Kaplan offers an alternative account of the meaning and content of indexicals and demonstratives in addition to an alternative account of their reference. Kripke presented only an account of the referents of proper names; he is silent about their meanings. However, other anti-descriptivists, including Nathan Salmon and Scott Soames, have offered direct reference theories for the meanings of proper names.[10]

The attacks on descriptivism extend beyond its consequences for names and indexicals. Indeed, Kripke suggests that natural-kind terms are rigid designators and that they are not synonymous with descriptions or clusters of descriptions.[11] Thus, the descriptivist account of natural-kind terms comes under attack as well. At around the same time, Hilary Putnam presented a sequence of papers arguing that natural-kind terms are not synonymous with descriptions or clusters of descriptions. Moreover, Putnam argued, the meanings of natural-kind terms are determined in part by the

[8] Kripke 1980; see Soames 2002 for discussion.

[9] Kaplan 1979a, 1989a; see also Perry 1977, 1979, 2001. I am distinguishing between the meaning and the content of a context-dependent expression; its meaning remains constant throughout changes in context, but its content changes.

[10] Salmon 1986; Soames 2002.

[11] Kripke 1980.

physical environment in which they are used. Thus, the meaning of a natural-kind term is not determined entirely by features internal to the mind of a person who uses it. According to Putnam, it is possible that there are two people with qualitatively identical mental states using the same word, yet the word has one meaning when used by one person and it has a different meaning when used by the other. This theory has come to be known as semantic externalism. Putnam also offers a non-descriptivist account of the meaning of natural-kind terms, which is based on the notion of a stereotype (e.g., the stereotype of a tiger is something like the cluster of properties that a normal tiger should have).[12]

Kripke's and Putnam's views on natural-kind terms have been extended in several ways. Soames offers a non-descriptivist account of the meaning of natural-kind terms that does not appeal to stereotypes and implies that natural-kind terms are not rigid designators. However, his account does respect most of the similarities between natural-kind terms and proper names (as Kripke construes them).[13]

Tyler Burge proposes several versions of semantic externalism. He argues that the meanings of natural-kind terms depend not only on the physical environment but on the social environment as well. That is, a linguistic expression used by two people with the same mental state in the same physical environment can have different meanings for them because they are members of linguistic communities that have different linguistic norms.[14] Burge also argues that semantic externalism (or anti-individualism, as he sometimes calls it) is true of many other types of linguistic expressions as well.[15] Furthermore, Burge claims that semantic externalism should apply not only to the meanings of linguistic expressions but to the contents of mental states and perceptual experiences as well.[16]

Although the anti-descriptivists disagree on many issues, one can draw several broad conclusions from their attacks on descriptivism. First, names, indexicals, and natural-kind terms are not synonymous with definite descriptions, and definite descriptions do not determine the referents of these linguistic expressions. Second, understanding a name, an indexical, or a natural-kind term is not simply a matter of mentally grasping its meaning and associating this meaning with it. Third, one can understand two synonymous expressions without knowing that they are synonymous; hence, meaning is not transparent. Fourth, the meanings of many linguistic expressions and the contents of many mental states are determined in part by the physical or social environment in which they are used or occur.

[12] Putnam 1971, 1973, 1975a; see also Burge 1982.
[13] Soames 2002.
[14] Burge 1979.
[15] Burge 1986a.
[16] Burge 1979, 1986b; see also McDowell 1992.

There is another, quite radical consequence of some anti-descriptivist views, namely, that epistemic modality and metaphysical modality diverge in certain cases. Metaphysical modal notions (e.g., possibility, necessity, and contingency) involve ways the actual world could have been.[17] We can say that a proposition is possible if and only if it is true in some possible world; a proposition is *necessary* if and only if it is true in all possible worlds; and a proposition is contingent if and only if it is true in some possible worlds and not true in others.[18] Epistemic modal notions (e.g., conceivability, apriority, and aposteriority) involve relations between experience and what can be known or entertained. We can say that a proposition is a priori if and only if its justification does not depend on experience; a proposition is a posteriori if and only if its justification does depend on experience; and a proposition is conceivable if and only if it can be coherently imagined to obtain independent of experience.[19]

The descriptivist account of metaphysical modal notions and epistemic modal notions explains both of them in terms of the meanings of linguistic expressions. Accordingly, if a proposition is necessary, then one can tell that it is true by merely grasping it (without appeal to experience), and if one can tell that a proposition is true without appeal to experience, then one knows that it is necessary. Analogous claims hold for the possibility/conceivability pair and the contingency/aposteriority pair. Thus, according to the descriptivists, a proposition is possible if and only if it is conceivable, a proposition is necessary if and only if it is a priori, and a proposition is contingent if and only if it is a posteriori. That is, metaphysical modality and epistemic modality are essentially the same.[20] Given that humans have a priori access to the epistemic modal properties of

[17] I use metaphysical modal terms with their metaphysical meanings; e.g., "possibility" means metaphysical possibility, not logical possibility or nomic possibility.

[18] I assume that the views expressed in this essay are compatible with a wide range of claims about how "possible world" talk should be analyzed.

[19] It is common to treat "a priori" as relative to an individual (e.g., Seth knows a priori that $2 + 2 = 4$). For the most part, I use it and the other terms for epistemically modal notions in a more person-independent way: a proposition is a priori if and only if one can come to have a priori knowledge of it.

[20] This view on the relation between metaphysical modality and epistemic modality is bolstered both by the way modal notions can be defined in terms of one another and by the way they can be defined in terms of worlds. We can define necessity and contingency in terms of possibility (i.e., *p* is necessary if and only if it is not the case that not-*p* is possible; *p* is contingent if and only if *p* is possible and not-*p* is possible). We can define apriority and aposteriority in terms of conceivability (i.e., *p* is a priori if and only if it is not the case that not-*p* is conceivable; *p* is a posteriori if and only if *p* is conceivable and not-*p* is conceivable). If we take the notion of a conceivable world as primitive, we can define conceivability, apriority, and aposteriority in terms of it (i.e., *p* is conceivable if and only if *p* is true in some conceivable world; *p* is a priori if and only if *p* is true in all conceivable worlds; *p* is a posteriori if and only if *p* is true in some conceivable worlds and not true in others). The descriptivist view that metaphysical modality and epistemic modality match up can then be thought of as the claim that all and only conceivable worlds are possible worlds.

propositions, humans have a priori access to the metaphysical modal properties of propositions. Consequently, we have a priori access to the metaphysical modal structure of the universe.

Some of the anti-descriptivist theories imply that metaphysical modality and epistemic modality are distinct. In particular, some anti-descriptivists argue that some propositions are contingent but a priori. Others claim that some propositions are necessary but a posteriori. For example, on Kripke's view, because "Hesperus" and "Phosphorus" are proper names, they are rigid designators. Hence, the proposition expressed by "Hesperus = Phosphorus" is necessary if it is true. However, this proposition is a posteriori. The claim that metaphysical modality and epistemic modality do not always match up is one of the most counterintuitive, controversial, and significant consequences of the anti-descriptivist revolution.

3. SELLARS'S ANTI-DESCRIPTIVISM

I begin this section by presenting six of Sellars's theses that qualify him as an anti-descriptivist, and I provide textual evidence that they are indeed Sellars's theses. After getting those on the table, I provide a sketch of Sellars's views on language, mind, and metaphysics, and I discuss the role of his anti-descriptivist claims in this broad framework. Finally, I compare and contrast Sellars's views with those of the anti-descriptivists (e.g., Kripke, Putnam, and Soames) and the neo-descriptivists (e.g., Stalnaker, Jackson, and Chalmers).

I focus on the following six anti-descriptivist theses advanced by Sellars:

1. Names are not synonymous with definite descriptions.
2. Some names are rigid designators.
3. The meanings of some linguistic expressions depend on the physical and social environment in which they are used (semantic externalism).
4. Some necessary propositions are a posteriori.
5. Some contingent propositions are a priori.
6. Understanding a linguistic expression does not involve mentally grasping an abstract entity (i.e., its meaning).

The first of Sellars's anti-descriptivist theses is that names are not synonymous with definite descriptions: "Even in the absence of considerations pertaining to the 'open texture' of criteria for the use of specific referring expressions there is reason to deny that the *sense* of referring expressions is given by definite descriptions, for their sense is, at bottom, their job, and their job is to be linguistic representatives of objects" (Sellars 1967b: 124). Sellars clearly denies that the sense of a name is given by a definite

description. He also offers a hint at his alternative model, which depends on the notion of a linguistic representative. In the following passage, Sellars offers criticism of what he calls equivalence models of meaning and reference, which equate the senses of names with the senses of definite descriptions or clusters of definite descriptions:

> The strategy which the equivalence model suggests is that of interpreting the semantical role of names in terms of functional equivalence to definite descriptions or clusters of definite descriptions. And undoubtedly, some degree of similarity in function is to be found.
>
> But consider the case of the origin, O, of a system of coordinates. There is a high degree of functional equivalence between "O," supposing the coordinates of A to be (2, 3) in a scale of inches, and "the point which is 3 inches below A and 2 inches to the left of A." But it is obvious that "O" has a function which is not *constituted by* such functional equivalences.
>
> Names of objects have a function which, like that of a point or origin of a coordinate system, is to be a *fixed center of reference*, a peg, so to speak, on which to hang descriptions. (Sellars 1980b: 104–5; paragraph numbers omitted)

Again, we have a clear rejection of one of the fundamental tenets of descriptivism and a hint at Sellars's alternative account; this passage even includes an example to help bring the point home.

Like many of the anti-descriptivists, Sellars endorses the causal account of reference presented so forcefully by Kripke and elaborated by Putnam and others: "Since my earliest papers I have held what has come to be known as a 'causal theory of reference,' though I have always been careful to distinguish it from a causal *analysis* of the concept of reference" (Sellars 1977: 355). Here Sellars endorses the account of reference, proposed by Kripke and clarified by Soames, on which the causal relations that link the user of a name with the occasion on which that name's referent was fixed explains why that name refers to that referent, but it is not the case that a user of the name must know specifics about the causal chain in order to use the name properly. Thus Kripke, Soames, and Sellars agree that the causal theory of reference explains why names have the referents they have, but it does not constitute an analysis of reference (i.e., it is not the case that the causal chain constitutes the reference relation that holds between a name and its referent).[21]

The second of Sellars's anti-descriptivist claims is that some linguistic expressions are rigid designators. In order to accommodate rigid designators, Sellars distinguishes between the primary sense and the derivative sense in which a name is a linguistic representative (in the following passage, "a" is functioning as a name).

[21] See Soames 2005, 68–71, for discussion.

> We need to highlight the difference between the truth condition *proper* of the truth that a is triangular and truth functionally equivalent states of affairs. The former is a matter of linguistic representatives in a *primary* sense. For, given that a = the x such that x is *over there*, the expression "the x such that x is *over there*" could be said to be in a derivative sense a linguistic representative of a.[i] . . . Thus, we might distinguish between "That it is triangular is true *primarily* of a," i.e., "a *as such*[ii] exemplifies triangularity" and the weaker "That it is triangular is true *of* a," i.e., "a (*sans phrase*) exemplifies triangularity." (Sellars 1980b: 87–88; use/mention conventions altered)

In this passage, the [i] marks a footnote, which reads, "It is at this point that Kripke's distinction between rigid and non-rigid designators becomes relevant," and the [ii] marks another footnote, which reads, "'As such' like 'qua' has an important use in a variety of contexts. Here I am using it in a 'negative' sense in which it implies that 'a' is a rigid designator." In the above passage, we see that Sellars clearly incorporates Kripke's distinction between rigid designators and non-rigid designators, and he implies that some names function as rigid designators.

My third example of Sellars's anti-descriptivism comes from his contribution to a remarkable conference called "Language, Intentionality, and Translation-Theory," held in 1973 at the University of Connecticut.[22] There, Sellars read the text of his paper "Meaning as Functional Classification," and Dennett and Putnam provided comments, to which Sellars gave a reply. In his comments on Sellars's paper, Putnam presented his critique of the descriptivist view that the meaning of an expression is determined by a speaker's mental states and dispositions, and his now famous Twin Earth counterexample.[23] Putnam assumes that Sellars's account of meaning is susceptible to this line of attack as well. In his reply to Putnam, Sellars explains that, like Putnam, he rejects semantic internalism and that most of the theses Putnam defends follow from Sellars's theory of meaning. In particular, Sellars writes:

> I have always stressed that language is a social institution, and that meaning is to be construed in social terms. Thus I certainly would not subscribe to the first of the above two assumptions [i.e., that the meaning of a speaker's words does not extend beyond what he knows and believes]. . . . Any adequate philosophy of mind must, indeed, be concerned with the relation of an individual's propensities for rule-governed behavior and the practices of his community. (Sellars 1974b: 461)

[22] The conference featured papers by Quine, Davidson, Lewis, Dummett, Harman, Parsons, Sellars, Dennett, Putnam, Kripke, Partee, and Kaplan; the proceedings (which can be found in *Synthese* 27 [1974]: 307–534) also include transcripts of several interesting discussions among the members of this all-star lineup.

[23] Putnam 1974.

Sellars also agrees with Putnam's view that the meanings of natural-kind terms depend in part on the physical environment in which they are used: "Does the word 'gold' refer to what gold *really* is? (Notice that this question is not quite the same as, though for present purposes equivalent to, Does the word 'gold' refer to (denote) items which are what gold *really* is?) The answer is, in a sense which requires careful explication: Yes" (Sellars 1974b: 461). This version of semantic externalism follows from Sellars's account of that which determines the meanings of linguistic expressions.[24] For Sellars, "linguistic episodes . . . stand for their senses . . . by virtue of the patterns they make . . . with other designs, with objects (in a suitably broad sense), and with actions" (Sellars 1967a: 112). It is a fundamental tenet of Sellars's theory of meaning that the social and physical environment in which a linguistic expression is used determines, in part, its meaning.[25]

The fourth anti-descriptivist view Sellars espouses is that some necessary propositions are a posteriori. In the following passage, Sellars discusses this issue:

> There is no immediate appearance of contradiction in the statement, "It is highly probable that all A is necessarily B," so that there would seem to be no absurdity in speaking of knowing aposteriori that all A must be B, though just what account might be given of such knowledge is another, and extremely perplexing, matter to which we shall return at the conclusion of our argument. (Sellars 1953c: 299)

Sellars goes on to explain that when one adopts a conceptual framework, one accepts certain necessary propositions involving the concepts of that framework. Because there are many different frameworks, and one's justification for adopting a particular one is always based, in part, on one's experience, the necessary propositions that form

[24] Notice that one could accept that "gold" refers to what gold really is without accepting semantic externalism (depending on how one interprets the phrase "what gold really is"). However, the discussion in Sellars's paper is clear that he takes this to be an endorsement of semantic externalism.

[25] Despite the fact that he endorses Putnam's semantic externalism, Sellars offers an objection to Putnam's claim that semantic externalism with respect to natural-kind terms implies that they function as indexicals: "Suppose that at comparable stages in the evolution of Earth and Twin Earth both we and our twins used X, Y and Z as our criteria for water. If these criteria were all that 'water' meant, that would be the end of it. Their water would be the same as our water. But, *ex hypothesi*, the real essence of their water is different from that of our water. If we were transported to Twin Earth (with the help of a little transpossible-world identity) we would say, on contemplating Twin Lake Michigan, 'We have lots of that stuff at home,' and we would be wrong. And our mistake would be *somehow* connected with the fact that we acquired our dispositions and propensities with respect to 'water' in the neighborhood of *our* Chicago and not *their* Twin Chicago" (Sellars 1974b: 462–63). One can find what is essentially the same criticism of Putnam in Burge 1982; see Putnam 1995, where he admits his mistake and endorses Burge's (and, hence, Sellars's) explanation.

the core of a conceptual framework are a posteriori (I discuss this aspect of Sellars's view further below). Thus, Sellars endorses one of the most radical of the anti-descriptivist views.

As I discussed in section 1, anti-descriptivists typically accept the existence of a posteriori necessary propositions and a priori contingent propositions. Although I am unaware of any place where Sellars explicitly discusses the latter, he does present several views that seem to have it as a consequence. The one on which I focus is his account of the relation between rule-governed practices and statements about those practices.

> It is only if the criterion for the applicability of the label "chess" to a performance is that the performance be governed by the rules of chess, that statements of the form "(In chess ——— may (or may not) be done in circumstances ***" are apriori. And it is clear that these apriori and non-prescriptive statements presuppose the prescriptive form "——— may (or may not) be done in circumstances ***."
>
> Let us call the name of a game a "rule bound name" if it functions as we have just supposed "chess" to do. And let us ask "What are the presuppositions of the truth-or-falsity of statements of the form '(In G) ——— may (or may not) be done in circumstances ***' where 'G' is a rule-bound name?"
>
> The answer I wish to give is that even though statements of this form *when true* are true *apriori* they are nevertheless neither-true-nor-false *unless there is such a game as G*, where the fact that there is such a game is an empirical fact. In short, I wish to argue that in such cases at least an *apriori statement* can have *empirical* presuppositions. (Sellars 1963a: 454)

If Sellars is right and "chess" is a rule-bound name, then "(in chess) moving a pawn one or two spaces ahead may be done as the first move of the game" is a priori. However, this sentence has as a presupposition the sentence "there is such a game as chess," which obviously expresses a contingent proposition. Furthermore, for Sellars, if "there is such a game as chess" turns out to be false in some possible world, then "(in chess) moving a pawn one or two spaces ahead may be done as the first move of the game" is a truth-value gap in that possible world. Therefore, although "(in chess) moving a pawn one or two spaces ahead may be done as the first move of the game" is contingent (i.e., it is not the case that it is true in all possible worlds), it is a priori if it is true. Therefore, since it is true in the actual world, it constitutes an a priori contingent truth. Not only does Sellars countenance a posteriori necessary truths, but he also admits the existence of a priori contingent truths as well.

Perhaps the most important of Sellars's anti-descriptivist views—and the one that sets him apart from the other anti-descriptivists—is his wholesale rejection of the

descriptivist account of understanding. On the descriptivist view, a person understands a linguistic expression if and only if she mentally grasps the right abstract entity (i.e., its meaning) and associates that entity with the linguistic expression. Sellars completely rejects the idea that humans mentally grasp abstract entities. In fact, Sellars denies that anything is simply given to the mind (whether universals or particulars). Of course, Sellars thinks that humans do understand linguistic expressions and that we are aware of properties and relations. His alternative account is based on the idea that our interaction with what we take to be abstract entities such as universals, properties, relations, and so on is constituted by our interaction with linguistic symbols. It is our ability to use linguistic expressions that are bound up with a system of rules that allows us to engage in conceptual activity at all. "The conceptual element in all the phenomena singled out by mentalistic expressions is a matter of the use of verbal symbols" (Sellars 1963a: 448). This claim is a pervasive element in many of Sellars's most important essays: "To think of a system of qualities and relations is, I shall argue, to use symbols governed by a system of rules which, we might say, *implicitly define* these symbols by giving them a specific task to perform in the linguistic economy" (Sellars 1949a: 302). The following is another passage:

> Let us assume, then, that the situation which obtains when it is true to say that Jones is aware of a quality or relation or possibility or, even, a particular, can (in principle) be exhaustively described in terms of dispositions relating to the use of linguistic symbols (predicates, sentences, names, descriptions). . . . If what occurs when we are "aware of a universal" is the use of a symbol, it follows that learning to use a symbol cannot be based on the awareness of universals. (Sellars 1953c: 310)

Because most of the other anti-descriptivists I discussed in section 1 accept that mental grasping of abstract entities such as propositions is an essential element of conceptual activity in general and of understanding linguistic expressions in particular (which is one of the most important elements of descriptivism), we can say that Sellars is an even more radical anti-descriptivist than Kripke, Putnam, or Soames. As I read Sellars, his account of language as a system of rule-governed expressions, his theory of meaning, his views on the relation between mind and language, and his account of the specific way in which names and predicates function are all part of a grand attempt to reconstruct the central categories of the descriptivist framework (e.g., meaning, reference, truth, necessity, belief, intention, action) without the problematic assumption that an essential aspect of human conceptual activity is the mental grasping of abstract entities. Telling that story and explaining the place of the above anti-descriptivist views in it is my next order of business.

I begin by presenting what I take to be one of Sellars's most fundamental commitments: nominalism. Traditionally, nominalism is the view that there are no abstract

entities. Of course, one arrives at different versions of nominalism by different ways of explaining what abstract entities are. There are plenty of issues to be sorted out here, but for my purposes we can assume that abstract entities are entities that exist outside space-time (e.g., universals, numbers, sets, and—on some accounts—propositions, properties, concepts, and relations).[26] Sellars rejects any philosophical theory that implies that abstract entities exist. Of course, Sellars employs the vocabulary of abstract entities (e.g., "redness," "proposition," "set"), but he denies that using these expressions commits him to the existence of abstract entities; like most nominalists, Sellars takes on the task of explaining the use of abstract entity vocabulary without appealing to abstract entities (e.g., for Sellars, "triangularity" is not the name of a universal).[27]

One consequence of his thoroughgoing nominalism is that Sellars cannot accept the traditional theory that conceptual activity essentially involves the mental grasping of abstract entities. He calls his rejection of the traditional account psychological nominalism: "I shall use the term 'Psychological Nominalism' to stand for the denial of the claim, characteristic of the realistic tradition, that a 'perception' or 'awareness' of abstract entities is the root mental ingredient of mental acts and dispositions" (Sellars 1963a: 445). Indeed, Sellars takes psychological nominalism to be the essence of nominalism in general:

> Let me hasten to emphasize that the difference between the Platonist and the nominalistic empiricist with respect to universals (and propositions) does not consist in the platonist's saying "There are universals" and the nominalist's saying "No, there are no universals," but rather in the platonist's speaking of psychological relationships between minds and universals, whereas the nominalist finds this to be nonsense. It is this way of speaking which constitutes the platonic hypostatization of universals, and not the making of triangularity into a super-triangle—which not even Plato seems to have done. (Sellars 1949a: 305)

Given Sellars's refusal to appeal to relations between minds and abstract entities, he requires an alternative account of conceptual activity in general and linguistic activity in particular. An adequate account of Sellars's alternative picture of mind, language, and the world would require an entire book, so I offer only a brief sketch of some of his

[26] See Hale 1987 for a discussion of the ways one might characterize abstract entities.

[27] I am not going to concern myself with *why* Sellars is a nominalist. Even if I could faithfully reconstruct his reasons, presenting them would take me too far afield. See Sellars 1948, 1953a, 1960a, 1963a, 1963b, 1970, 1975b, 1977, 1980b, 1981b, 1983. Moreover, I do not think that nominalism and descriptivism are incompatible per se. Rather, nominalism is an important motivation for Sellars's particular anti-descriptivist views.

central doctrines that are relevant for classifying him as one of the most radical of anti-descriptivists. I focus on four Sellarsian doctrines: his inferential role theory of meaning, his account of abstract singular terms, his doctrine of verbal behaviorism, and his explanation of representational systems.

On Sellars's theory of meaning, the meaning of a linguistic expression is its conceptual role—the role it plays in the linguistic practice to which it belongs. For Sellars, there are three major aspects of conceptual roles: perception, inference, and action. Many linguistic expressions have a reporting role in the language; that is, they occur in sentences that serve as observation reports (Sellars calls these "language entry transitions"), which are non-inferentially justified assertions about entities in one's environment. Linguistic expressions also participate in inferences, and, for Sellars, this is an essential aspect of their identity as properly linguistic items. One can think of the inferential aspect of conceptual role as primarily associated with sentences; a sentence's inferential role is characterized by the set of sentences from which it can be inferred and the set of sentences that can be inferred from it. One can then explain the inferential role of a word as the contribution it makes to the inferential roles of the sentences in which it occurs. Sellars often calls inferences "intra-linguistic transitions." The third aspect of conceptual role involves the link between linguistic expressions and actions, which Sellars labels "language exit transitions."[28]

Sellars explains the conceptual role of a linguistic expression in terms of the linguistic rules of the linguistic practice to which it belongs. For Sellars, languages are essentially sets of linguistic expressions and rules for using them. He has a complex account of linguistic rules, but for the basic picture, one must make three distinctions. First, one must distinguish between pattern-governed behavior and rule-obeying behavior. The latter is behavior that occurs because the agent is aware of a rule and is acting in accordance with it, whereas the former is behavior that occurs because it has been selectively reinforced (but it need not occur because the agent is aware of a certain rule). Pattern-governed behavior consists of acts, while rule-obeying behavior consists of actions (this is the second distinction). The difference between acts and actions is that actions are essentially things an agent can decide to do, whereas acts are not (however, both acts and actions count as conceptual activity). The third distinction concerns the kinds of rules governing the two different kinds of behavior. Rules of criticism (i.e., ought-to-bes) govern the acts that constitute pattern-governed behavior, while rules of action (i.e., ought-to-dos) govern the actions that constitute rule-obeying behavior. Each kind of rule has its own canonical formulation in language and its own kind of correctness associated with it. The language entry transitions, language exit transitions, and intra-linguistic transitions mentioned in connection with the conceptual

[28] See Sellars 1949a, 1953b, 1954, 1956, 1969.

role of a linguistic expression are, for the most part, acts, not actions. Thus, the conceptual role of a linguistic expression is largely determined by the way it functions in a system of rules of criticism and the associated system of pattern-governed behavior.[29]

In order to explain the function of vocabulary that has traditionally been taken to be about abstract entities, Sellars introduces a convention for talking about conceptual roles; he uses dot quotes: •. For example, •red• is a common noun for the conceptual role of "red"; one can say that "red" is a •red•. One nice feature of dot quotes is that they are not tied to any particular language. For example, *rot* (in German), "red" (in English), *vermelho* (in Portuguese), and 红色 (in Chinese) are •red•s.

Sellars explains meaning claims (e.g., "'rot' means *red*" and "'Schnee ist weiss' means that snow is white") with the help of dot quotes. The received view is that meaning claims express relations that hold between linguistic expressions (e.g., words or sentences) and meanings (e.g., concepts or propositions). For a nominalist such as Sellars, this account is unacceptable. Instead, he claims that "means" in meaning claims functions as a copula, the linguistic expression on the right-hand side of "means" functions as a dot-quoted expression, and the linguistic expression on the left-hand side of "means" functions as a distributive singular term, which can be analyzed in terms of tokens of that linguistic type. For example, "'rot' (in German) means red" is to be analyzed as "'rot's (in German) are •red•s," and "'Schnee ist weiss' (in German) means that snow is white" turns out to be "'Schnee ist weiss's (in German) are •snow is white•s." Thus, for Sellars, meaning claims are not relational but classificatory. When one asserts a meaning claim, one asserts that a certain linguistic expression plays a role in its linguistic practice that is similar to the role of a certain linguistic expression of the linguistic practice in which one is participating.[30] He offers a similar account of "stands for," which is traditionally taken to express a relation between linguistic items and universals (e.g., "'red' stands for redness"). For Sellars, abstract singular terms ending in "-ness," "-ity," "-hood," and so forth are disguised dot-quoted expressions. Thus, "'red' stands for redness" becomes "'red's are •red•s." When combined with his claim that what are traditionally taken to be ontological category words (e.g., "property," "thing," "individual," "relation") function as linguistic category words (e.g., "predicate," "name," "individual constant," "relation term"), the dot quotes allow him to explain sentences such as "Redness is a property," which becomes "•Red•s are predicates."[31]

I have discussed two of the four aspects of Sellars's views on language: his theory of meaning and his explanation of abstract entity vocabulary. The third is verbal

[29] See Sellars 1949a, 1953b, 1954, 1956, 1969, 1974a, 1980a, 1980b; see Brandom 1994 for a similar account.

[30] See Field 2001 for a similar account.

[31] See Sellars 1949b, 1960a, 1963a, 1963b, 1967b, 1970, 1974a, 1980b, 1983.

behaviorism—his account of the relation between mind and language. Sellars is committed to the claim that linguistic items have their semantic features by virtue of the fact that they participate in systems of rules and systems of pattern-governed and rule-obeying behavior, which include observation reports, inferences, actions, and the objects observed, discussed, and acted upon. It is not the case that linguistic expressions inherit their semantic features from the mental states or episodes of those who use them. In fact, Sellars appeals to the semantic features of linguistic expressions in his explanation of the semantic features of mental states and episodes.

The central concept of verbal behaviorism is thinking-out-loud. The idea is that some linguistic episodes are also mental episodes; that is, although thinking-out-loud involves uttering linguistic expressions, it is thinking. Moreover, thinking-out-loud is more primitive than engaging in communication with others. Sellars has a two-step process for explaining mental states and episodes: (1) he introduces a framework that treats thinking as a purely linguistic process (i.e., thinking is thinking-out-loud), and (2) he explains how to introduce inner episodes into this framework so that thinking is either thinking-out-loud or having the occurrence of certain inner episodes (i.e., thoughts). The second step involves two distinct kinds of inner episodes, sensations and thoughts; introducing each kind of inner episode requires a multi-step process as well. I discuss each in section 3.[32]

The fourth aspect of Sellars's views is his theory of representational systems, which is intended to explain the way in which systems of linguistic expressions or mental episodes represent the world. His account requires a distinction between items in the real order (the representeds) and items in the conceptual order (the representers) and two relations: picturing (which holds between items of the real order) and signifying (which holds between items of the conceptual order). By virtue of picturing relations, items in the real order form a system, and by virtue of signifying relations, items of the conceptual order form a system. An item of the conceptual order represents an item of the real order by virtue of the fact that the real item plays a role in the system of real items and the conceptual item plays a relevantly similar role in the system of conceptual items. In particular: "In a representational system, a symbol for an object, x, represents that object as ϕ by virtue of having a counterpart character ϕ^*" (Sellars 1981b: 334). Items in the real order have certain characters and items in the conceptual order have certain counterpart characters. A certain conceptual item with a certain counterpart character represents a certain real item and represents it as having a certain character.

Although this account of representational systems is sketchy, Sellars has concrete ideas for the way in which it explains linguistic representation (which can then be used as a model for mental representation by way of verbal behaviorism). The central doctrine of

[32] See Sellars 1956, 1960b, 1964, 1967b, 1969, 1980b, 1981b; Sellars and Chisholm 1957.

Sellars's theory of linguistic representation is his theory of predication. On the traditional picture, predicates stand for universals and singular terms refer to objects; a singular term/predicate sentence says of the object to which the singular term refers that it exemplifies the universal for which the predicate stands.[33] Another popular view is that predicates designate sets of objects (i.e., extensions) and singular terms refer to objects; a singular term/predicate sentence says of the object to which the singular term refers that it is a member of the set of objects designated by the predicate.[34] Obviously, Sellars cannot accept either of these accounts because of his nominalism.

Instead, he proposes a theory of predication in which predicates play no semantic role in a language—in fact, predicates are dispensable (Sellars calls them auxiliary expressions). For Sellars, predicates serve to modify the counterpart character of singular terms so that the singular terms represent objects as being of a certain character. For example, "Doris" is a conceptual item and Doris is a real item; if we want to represent Doris as having the character of being hungry, then we need to present "Doris" with the appropriate counterpart character. That is where predicates come in. We represent Doris as being hungry by writing (or saying) "Doris" (the conceptual item that represents Doris) with the counterpart character of having "is hungry" to the right of it (or said immediately after it); thus, "Doris is hungry" represents Doris as having the character of being hungry because "Doris" has the counterpart character of being written to the left of "is hungry." On Sellars's theory, predicates do not stand for or denote anything; all they do is allow us to easily modify the counterpart characters of singular terms so that the singular terms can represent objects as having certain characters. If we wanted to, we could dispense with predicates altogether and modify singular terms in other ways (e.g., the color or font in which they are written or the pitch or speed at which they are spoken).[35] Of course, one would need enough counterpart characters to adequately represent the various characters objects can have. Predicates work well in this way because one can always add new ones.[36]

That completes my brief overview of Sellars's views on language, mind, and the world. How do his anti-descriptivist claims fit into this picture? The heart of his anti-descriptivism is his psychological nominalism. He rejects the view that minds mentally grasp abstract entities; consequently, he rejects the view that a linguistic expression has its semantic features by virtue of the fact that minds mentally grasp the right abstract entity and associate it with that expression, and he also rejects the view that to understand

[33] See McGinn 1999 for a recent defense of this theory.

[34] See Davidson 2005 for a recent defense of this theory.

[35] To illustrate his account of predication, Sellars introduces Jumblese, which is a language without predicates; see Sellars 1962b, 1963b. Contrast Sellars's view with Quine's, in which names are dispensable and predicates do the representational work; see Quine 1953.

[36] See Sellars 1956, 1960b, 1964, 1967a, 1980b, 1981b, 1983; Sellars and Chisholm 1957.

a linguistic expression is to associate the right mentally grasped abstract entity with it. Instead, a linguistic expression has its semantic features by virtue of the role it plays in a rule-governed system of expressions and the way it is used by members of a linguistic practice that display the right pattern-governed and rule-obeying behavior (which includes perception, inference, and action), and to understand a linguistic expression is to know how to use it in such a practice. Of the other anti-descriptivists who endorse theories of meaning, none rejects this descriptivist assumption. Thus, as anti-descriptivists go, Sellars is a more radical, more thorough anti-descriptivist than those philosophers one more commonly associates with anti-descriptivism.[37]

Sellars's claim that names are not synonymous with descriptions follows from his views on representational systems and his theory of predication. If the senses of names were given by definite descriptions, and definite descriptions have occurrences of predicates, then Sellars's view that predicates are auxiliary expressions (i.e., predicates are dispensable) would be false. Moreover, Sellars has an alternative account of how names acquire their referents, which involves the role a name plays in a linguistic practice that includes perceptions, inferences, and actions.

The distinction between rigid and non-rigid designators to which Sellars appeals is designed to adequately distinguish between singular terms such as names and singular terms such as definite descriptions.[38] The former have their referents by virtue of the causal relations that obtain between tokens of sentences in which they occur (in both perceptual situations and action situations), the members of the linguistic practice who use these tokens, and the objects to which they refer. The latter have their referents, in part, because of the counterpart characters of the names that occur in the singular term (e.g., "Springfield" has the counterpart character of being concatenated to the right of "the mayor of" in "the mayor of Springfield") and the causal relations that link the names to their referents. This difference is reflected in the modal, epistemic, and semantic properties of sentences containing the two kinds of singular terms.

[37] Sellars's work on the link between discursive practices and mental and linguistic representation contains insights that might serve as part of a response to Soames's recent call for attention to this topic. Soames writes: "The study of language is not the study of the fortuitous coordination of private idiolects (each governed by the descriptive, constitutive intentions of a single speaker), with its own semantics and reference-fixing mechanisms. Rather, it is the study of a commonly shared social institution that is used in slightly different ways by different speakers. Although this social perspective is, in my opinion, part and parcel of the anti-descriptivist revolution initiated by Kripke, Putnam, and others, it may also be the part that is least developed, and least well understood. As such, it is one of the most important areas in which further work is needed to extend and deepen our understanding of the nondescriptivist perspective" (Soames 2005: 339).

[38] Of course, some definite descriptions are rigid designators (e.g., "the actual mayor of Springfield").

Sellars's commitment to semantic externalism follows from the fact that he explains the semantic features of linguistic expressions in terms of the way those expressions are used in a linguistic practice and the fact that linguistic practices both are intrinsically social and involve physical objects. The meaning of a linguistic expression is determined by its role in the linguistic practice, and the role of a linguistic expression in a practice involves both the rules that govern that practice (e.g., rules of criticism and rules of action) and elements of the physical environment inhabited by the members of the linguistic practice. Thus, for Sellars, the meaning of a word depends, in part, on the physical and social environment in which it is used.

Furthermore, there is another variety of semantic externalism that follows from Sellars's account of language; however, it is complex, and I can only sketch the outline of it here. Recall that, for Sellars, the inferential role of a sentence contributes to its meaning. Sellars includes not only formal inferences (e.g., from "grass is green and water is wet" to "water is wet") but material inferences as well (e.g., from "the living room is above the basement" to "the basement is below the living room"). Among the material inferences Sellars considers are those licensed by the natural laws of the world to which the linguistic practice belongs (e.g., from "the water is boiling" to "the water is 100°C"). Given that the meanings of linguistic expressions depend on their inferential roles, and their inferential roles depend on the relevant natural laws, the meanings of linguistic expressions depend on the relevant natural laws.[39]

Sellars's reasons for admitting necessary a posteriori truths have to do with his account of metaphysical modal notions and his account of conceptual frameworks. He explains metaphysical modal notions in terms of linguistic rules. That view probably strikes the reader as antiquated given that most contemporary philosophers reject such explanations in light of Quine's attacks on conventionalism.[40] However, because Sellars insists on the distinction between rules of criticism and rules of action (and the associated distinctions between acts and actions and between pattern-governed behavior and rule-obeying behavior), Quine's criticisms do not apply directly to Sellars's account of

[39] "From the standpoint of formal linguistics, one of the most interesting implications of our analysis is the conception of a truth-functional or extensional account of the prima facie non-extensional relationships of the primitive descriptive predicates of an empirical language in virtue of which they mean what they do. 'Surely the meaning of the expressions of a language doesn't depend on what is the case!' Surprising though it may seem, from the standpoint of epistemological semantics the meanings of the expressions of a language do depend on what is the case, though not in 'the actual world' (however this concept be analysed) but *in the family of worlds which are the worlds of the language*" (Sellars 1948: 123 n. 21). The family of worlds Sellars speaks of is the family of worlds in which the same natural laws hold. Thus, the meaning of a linguistic expression depends on the natural laws in the world in which it is used; see also Sellars 1953b, 1957.

[40] See Quine 1966; see also Lewis 1969, Dummett 1973, Davidson 1984b, Kripke 1982, and Brandom 1994 for discussion.

metaphysical modality.[41] For Sellars, the claim that a given proposition is necessary is analogous (in a certain sense to be explained in a moment) to the claim that the associated sentence is unconditionally assertible according to the rules governing the linguistic practice in question. To explain this account, Sellars relies on Carnap's distinction between the material mode of speech and the formal mode of speech.[42] Necessity claims are the material analogues of unconditional assertibility claims. When one learns to speak a certain language, one accepts certain unconditional assertibility claims (and hence one accepts certain necessity claims). When one learns to speak a new language, one accepts different unconditional assertibility claims (and hence one accepts different necessity claims). Thus, in an important sense, a language is a conceptual framework whose superstructure is a set of necessities. Furthermore, there is no privileged conceptual framework; that is, one cannot tell a priori which conceptual framework is the right one. One's choice of conceptual framework is based on one's experiences and the experiences of those in one's linguistic practice. Thus, when one adopts a new conceptual frame, one accepts it on empirical grounds. Hence, when one adopts a new set of necessity claims, one accepts (at least some of them) on empirical grounds. The necessity claims one accepts on empirical grounds are a posteriori necessities.[43]

Of course, given that Sellars accepts that some singular terms are rigid designators and that he accepts the obvious fact that certain identities involving such singular terms (e.g., "Hesperus = Phosphorus") are a posteriori, he accepts that certain necessary truths are a posteriori. Sellars also accepts a form of essentialism, which commits him to necessary a posteriori truths as well. However, he does not emphasize these consequences of his views (unlike the other anti-descriptivists).[44]

One point of similarity between Sellars and the other anti-descriptivists is that he seems to accept a priori contingent truths on the basis of competence with names. In particular, his views on rule-bound names (which pertain to names for certain elements of rule-governed practices) commit him to the existence of contingent a priori truths.

Before moving on to the more speculative section of this essay, I want to address an objection to my reading of Sellars as a staunch anti-descriptivist. It should not come as a surprise that there has been a backlash against some of the anti-descriptivists' criticisms. Some of the most interesting attacks on anti-descriptivism have come from the neo-descriptivists, who attempt to accommodate some of the anti-descriptivist's insights while preserving as many of the tenets of descriptivism as possible.

[41] Obviously, defending this claim is beyond the scope of this paper.
[42] See Carnap 1937 and Sellars 1953b.
[43] It seems to me that Sellars's account of conceptual schemes effectively avoids Davidson's objections; see Davidson 1984a; see also McDowell 1994.
[44] See Sellars 1980b: 88.

An important tool for the neo-descriptivists is two-dimensional modal semantics. Two-dimensional semantics has its roots in Kaplan's theory of context-dependent expressions; he distinguished between the character and the content of such an expression. Characters are functions from contexts of utterance to contents, and contents are functions from circumstances of evaluation to extensions. Neo-descriptivists use similar distinctions to argue that the meanings of names and natural-kind terms are given by certain descriptions; they also argue that what seem to be examples of sentences expressing necessary a posteriori propositions and sentences expressing contingent a priori propositions are really cases of sentences expressing multiple propositions, one contingent a posteriori and one necessary a priori. Thus, the neo-descriptivists use two-dimensional semantics to defend the link between epistemic modal notions and metaphysical modal notions (e.g., that a proposition is conceivable if and only if it is possible, and that a proposition is a priori if and only if it is necessary). These philosophers endorse some of the anti-descriptivists' claims (e.g., that the meaning of some linguistic expressions depend in part on their physical or social environment, and that the meaning of a proper name is not given by a commonly held description of its bearer), and they employ some of the anti-descriptivists' tools (e.g., rigid designation and the distinction between definition and reference-fixing), but they stop short of accepting the most radical anti-descriptivist conclusions (e.g., that the meanings of proper names and natural-kind terms are their referents, and that necessary a posteriori propositions and contingent a priori propositions exist).[45]

The objection is that, instead of belonging to the anti-descriptivist camp, Sellars should be thought of as a neo-descriptivist. One reason to doubt that Sellars is an anti-descriptivist is that he does not accept the most popular anti-descriptivist theory of meaning: direct reference. Indeed, Soames claims that a direct reference theory of meaning is forced on anti-descriptivists: "According to [Kripke], the meaning of a name is never the same as that of any description, and the vast majority of names do not even have their referents semantically fixed by descriptions. If these names are so thoroughly nondescriptional, it is not clear how their meanings could be other than their referents" (Soames 2005: 35). My reply is that Sellars clearly denies both that the meanings of names are given by descriptions and that the meanings of names are their referents.[46] His account of meaning constitutes an important alternative to the direct

[45] For overviews of neo-descriptivism and two-dimensionalism, see the introduction to Hawthorne and Gendler 2002; Soames 2005; Chalmers 2006; and the papers in Garcia-Carpintero and Macia 2006. For particular neo-descriptivists, see Chalmers 1996; Jackson 1997; Stalnaker 1999.

[46] Sellars 1980b.

reference theory for anti-descriptivists.[47] Moreover, the central issue of contention between the anti-descriptivists and neo-descriptivists is the existence of contingent a priori propositions and necessary a posteriori propositions. I have argued that Sellars is committed to the both of these types of propositions and that he readily admits this fact. Thus, he is squarely in the anti-descriptivist camp.

4. METAPHYSICAL AND EPISTEMIC MODALITY: THE RETURN OF JONES

In this section, I present an account of the relation between metaphysical modal notions and epistemic modal notions, which I take to be Sellarsian in spirit. Let me be clear: I am not endorsing or defending this account, and I am not attributing it to Sellars or anyone else (as far as I know, neither Sellars nor anyone else has proposed such a view). I present it to illustrate the power and utility of the Sellarsian version of anti-descriptivism. That is, I claim that if one accepts the views of Sellars I presented in section 2, then one is in a position to endorse a novel and potentially illuminating explanation of metaphysical and epistemic modal notions, which (1) is an extension of Sellars's actual views, (2) vindicates the anti-descriptivists' claims about the relation between metaphysical and epistemic modal notions, and (3) explains why the anti-descriptivists' claims about the relation between metaphysical and epistemic modal notions seem so counterintuitive. The conclusion I want draw is that when Sellars is read as an anti-descriptivist, there is plenty he can teach us about anti-descriptivism.

I first present an overview of the central feature of Sellars's verbal behaviorism: the myth of Jones.[48] Recall that verbal behaviorism is the view that linguistic expressions and episodes have their semantic features by virtue of the role they play in a linguistic practice (not by virtue of expressing certain mental states), and mental states and episodes should be explained in terms of linguistic practices. Sellars argues that we can explain our mental vocabulary with a two-step strategy: (1) present an account of a community of language users who think only in a primitive way as a purely linguistic process (thinking-out-loud), and (2) show how to introduce mental vocabulary into this community such that its members acquire the ability to think in the complex way we take for granted. In this section, I am concerned with the second step, which Sellars accomplishes with his myth of Jones.

[47] One should not assume that use theories of meaning (such as Sellars's theory) are inconsistent with descriptivism; some descriptivists (e.g., Dummett [1973]) offer use theories as well. Rather, some use theories are compatible with anti-descriptivism.

[48] Unless otherwise indicated, all the material in this section comes from Sellars 1956: 85–117 and Sellars and Chisholm 1957.

In Sellars's writings, there are actually two distinct myths of Jones. Each one addresses the relation between two sets of concepts. The first pertains to the relation between concepts that apply to thoughts and concepts that apply to linguistic episodes, while the second concerns the relation between concepts that apply to sensations and concepts that apply to observable objects. Each myth of Jones is intended to accomplish at least two goals: (1) it undermines the received view on the relation between the two sets of concepts (e.g., the view that concepts applying to linguistic episodes should be explained in terms of concepts applying to thoughts and the view that concepts applying to observable objects should be explained in terms of concepts applying to sensations), and (2) it constitutes a rational reconstruction of what Sellars takes to be the correct account of the relation between the two sets of concepts in question (e.g., that concepts applying to linguistic episodes are explanatorily prior to those applying to thoughts and that concepts applying to observable objects are explanatorily prior to those applying to sensations).[49]

Sellars begins the myths by describing a linguistic community he calls the Ryleans. Their language (which I call Rylean) includes (1) vocabulary for describing observable properties of and relations between physical objects, (2) logical vocabulary (e.g., truth-functional connectives, quantifiers, and variables), (3) subjunctive conditionals, (4) causal vocabulary (e.g., "cause," "effect," and "reliable indicator"), (5) semantic vocabulary (e.g., "means," "refers," and "true"), and (6) theoretical vocabulary, which allows them to posit unobservable entities and properties in an effort to explain observable phenomena.[50] It is essential to note that the Ryleans do not have vocabulary used to describe or attribute mental states or episodes. Although they have both propositional attitudes and sensations, they do not have any concepts that apply to such mental phenomena.

In each myth, Jones proposes a new theory about mental phenomena, teaches it to the community members, and trains them to use the vocabulary of the theory in a reporting role. Both myths of Jones appeal to some of Sellars's views on scientific explanation and the structure of scientific theories (i.e., those that posit unobservable entities as part of an explanation of observable phenomena). For Sellars, although a scientific theory can have the familiar structure of a set of principles governing posited theoretical entities and bridge laws connecting statements about observable states of

[49] Unfortunately, I do not have the space to discuss the relations between Sellars's myths of Jones and what he calls the myth of the given.

[50] Although he does not mention it, Sellars's views on language imply that for Rylean to count as a language, it must also have (7) vocabulary used to mark utterances as perceptual reports, (8) vocabulary used to mark utterances as claims about future behavior, and (9) inferential vocabulary, which can be used to indicate inferential relations between claims and to issue a challenge to another's claim.

affairs with statements about the theoretical entities, it need not have this structure. Indeed, in its early stages, a scientific theory often has the structure of a model and commentary. That is, a scientific theory posits a domain of theoretical entities, specifies a group of observable (or at least familiar) entities that serve as the model for the theoretical entities, and includes a commentary stating how the theoretical entities are similar to and differ from the model entities. The theories Jones offers have this model/commentary structure.

The first myth (I refer to it as the thought myth of Jones) has Jones introducing his theory of thoughts, which is supposed to explain why humans act rationally even when they are not thinking-out-loud (i.e., using language). Jones holds that thoughts are theoretical inner episodes and that they are part of the process that leads to linguistic episodes; however, one can have thoughts without expressing them in language. The model for a thought is a linguistic episode, and the commentary specifies that (1) the semantic concepts that primarily apply to language also apply to thoughts, (2) thoughts do not have the physical characteristics of linguistic episodes (e.g., they do not make noise), and (3) thoughts are not definable in terms of observable phenomena. Jones first teaches the Ryleans his theory of thoughts so that they can attribute thoughts to themselves and to one another on the basis of observable behavior (e.g., Clancy says, "Sara asserted that she likes pie; therefore, she thinks that she likes pie"). Once the Ryleans accept the theory and can use its vocabulary inferentially, Jones trains them to use it in observation reports. That is, he trains them to attribute thoughts to themselves non-inferentially. Once the Ryleans have been trained in this way, thoughts—the theoretical posits of Jones's theory—have become observable, and the Ryleans have acquired the ability to have privileged access to their own thoughts.[51]

The second myth (which I call the sensation myth of Jones) depends on the first in the sense that the Ryleans must already accept Jones's theory of thoughts and be able to use its vocabulary in observation reports. Jones then introduces his theory of sensations, which are supposed to explain why people are sometimes disposed to give false observation reports (e.g., Clancy knows that the banana is yellow, but he is disposed to say and to think that it is green in certain lighting conditions). Jones claims that sensations are theoretical inner episodes that are part of the process that begins with the stimulation of sense organs and sometimes culminates in observation thoughts and observation reports. The model for a sensation is an inner replica of an observable object; the commentary specifies that (1) sensations are states, not particulars, (2) sensations are not thoughts (i.e., they are not the kind of thing that can be expressed by

[51] The view that the distinction between theoretical and observable entities is methodological is one of the central tenets of Sellars's philosophy of science. With the proper training, one can come to observe what were previously theoretical entities.

uttering a sentence), (3) sensations are not definable in terms of observable phenomena, (4) sensations are divided into kinds corresponding to sense organs, and (5) sensations of a particular kind have properties and participate in relations analogous to the properties of and relations between the observable objects of that kind (e.g., visual sensations have properties that are analogous to the shapes and colors of visually observable objects). Just as with the theory of thoughts, Jones teaches the Ryleans his theory of sensations, and they learn to attribute sensations to themselves and to one another on the basis of behavioral evidence (e.g., Clancy says, "Sara is looking at a yellow banana under blue light; therefore, she has the sensation of a green banana"). Finally, Jones trains the Ryleans to use the vocabulary of his theory of sensations in observations reports so that they can attribute sensations to themselves non-inferentially. At this point, sensations, like thoughts, have gone from being theoretical posits of Jones's theory to being observable entities, and the Ryleans have acquired the ability to have privileged access to their own sensations.[52]

Both of the myths serve to undermine the received view on the relation between two sets of concepts and to motivate Sellars's alternative account. The thought myth is intended to undermine the view that concepts pertaining to linguistic episodes and items should be explained in terms of concepts pertaining to mental states, and it is intended to motivate Sellars's view that the explanation should go in the other direction. The sensation myth is intended to undermine the view that concepts pertaining to observable objects should be explained in terms of concepts pertaining to sensations, and it is intended to motivate Sellars's view that the explanation should go in the other direction.

I intend to apply Sellars's strategy to the relation between metaphysical modal notions and epistemic modal notions. I take up where we last left the Ryleans: they accept both Jones's theory of thoughts and his theory of sensations, and they have been trained to use the vocabulary of thoughts and sensations in observation reports. Before bringing Jones out of retirement, I want to stipulate that there are two additional changes to the Ryleans' linguistic practice. First, I assume that they have a rudimentary understanding of the different types of thoughts; in particular, they have the concept of belief. Second, I assume that they also have the vocabulary of metaphysical modality (e.g., "possible," "necessary," and "contingent"). Although Sellars does not discuss these terms, it seems to me that if the Ryleans have subjunctive conditionals, as Sellars assumes, then it would not be difficult to introduce metaphysical modal vocabulary; one could do so by stipulating that it is

[52] The sensation myth dovetails with Sellars analysis of "looks" talk, on which someone who asserts "x looks ϕ" is disposed to assert "x is ϕ," but she has reason to doubt that x is really ϕ. That is, in accordance with his verbal behaviorism, Sellars explains "looks" talk in terms of "is" talk; see Sellars 1956: 32–53.

appropriate to assert a subjunctive conditional with a sentence *p* in the antecedent if and only if it is appropriate to assert that *p* is possible.[53] Then one can define necessity and contingency in terms of possibility. We can assume that the Ryleans treat these primarily as properties of declarative sentences, but they can be applied to beliefs as well.[54]

Once the Ryleans have the ability to use the vocabulary of Jones's theory of thoughts and his theory of sensations, their linguistic practice displays a new and puzzling phenomenon: when providing justifications for their beliefs, sometimes the Ryleans appeal to their sensory experience and other times they do not. Moreover, it seems that the beliefs for which it is appropriate to justify by appeal to sensory experience and those for which it is not constitute two important kinds of beliefs that can be distinguished by the topics of the beliefs. Just as Jones's earlier theories are intended to explain some puzzling phenomenon (i.e., the theory of thoughts explains rational behavior in the absence of linguistic behavior, and the theory of sensations explains perceptual mistakes), Jones proposes a new theory, a theory of epistemic modality, to explain the Ryleans' puzzling justificatory behavior. Jones claims that beliefs have certain theoretical properties (i.e., conceivability, apriority, and aposteriority), which determine whether it is appropriate to appeal to sensory experience when engaged in justification. The model for an epistemic modal property is the corresponding metaphysical modal property, and the commentary specifies that (1) a person who has a belief can tell which epistemic modal property that belief has simply by having the belief, and (2) people use the epistemic modal properties of their beliefs to decide whether it is appropriate to appeal to sensory experience when justifying them. Of course, Jones teaches the Ryleans his theory, and they learn to apply the epistemic modal concepts on the basis of behavioral evidence (e.g., Clancy says, "When justifying her belief that the Earth is flat, Sara appealed to her sensory experience; thus, her belief that the Earth is flat is a posteriori"). Once the Ryleans are accustomed to using the vocabulary of epistemic modality, Jones trains them to use it in observation reports; once they acquire this ability, the epistemic modal properties have gone from being theoretical posits of Jones's theory to being observable properties of beliefs. I call this the modal myth of Jones. The following chart lays out the major points in the three myths of Jones:

	Explanandum	Posits	Model	
Thoughts	rational behavior	thoughts		linguistic episodes

[53] To implement this idea, one would have to deal with counter-possibles, but I ignore this complication in what follows.

[54] Of course, one could introduce a theory of propositions to the Ryleans, but it would add needless complexity.

Sensations | perceptual behavior sensations replicas of physical objects

Modality | justificatory behavior epistemic modal properties metaphysical modal properties

I want to make three points about this new myth of Jones. First, in the case of thoughts and sensations, the transition from inferential application to non-inferential application results in the Ryleans having privileged access to their own thoughts and sensations. However, the privileged access for epistemic modal properties is a bit different. In the case of thoughts and sensations, the person who has the thoughts and sensations is in a better position to know which thoughts and sensations he has, while in the case of epistemic modal properties the person who understands a particular sentence or has the corresponding belief has privileged access to the epistemic modal properties of that sentence or belief. One need not have the belief that the earth is round to know non-inferentially that this belief is a posteriori. We could say that non-inferential application of thought and sensation terminology is usually based on possession of the thought or sensation in question, but non-inferential application of epistemic modality terminology is usually based on the content of the sentence or belief in question.

Second, it should be obvious that it is consistent with Jones's theory of epistemic modality that some sentences are a priori and contingent, some are a posteriori and necessary, some are inconceivable and possible, and some are conceivable and impossible. It is a substantive claim that is independent of Jones's theory that epistemic modality and metaphysical modality always match up. Thus, this new myth of Jones not only explains the role our epistemic modal vocabulary plays in our linguistic practice but is consistent with the anti-descriptivists' conclusions. This new myth of Jones works with Sellars's other views to explain the fact that epistemic modality and metaphysical modality do not match up.

Third, if what I have claimed in the first two sections of this paper is correct, then a Sellarsian anti-descriptivist can accept Soames's account of the relation between metaphysical modal notions and epistemic modal notions:

> Just as there are properties that ordinary objects could possibly have had and other properties they couldn't possibly have had, so there are certain maximally complete properties that the universe could have had—possible states of the world—and other maximally complete properties that the universe could not have had—impossible states of the world. Just as some of the properties that objects couldn't have had are properties that one can coherently conceive them as having, and that one cannot know apriori that they don't have, so some maximally complete properties that the

> universe could not have had (some metaphysically impossible states of the world) are properties that one can coherently conceive it as having, and that one cannot know apriori that it doesn't have. Given this, one can explain the informativeness of certain necessary truths as resulting (in part) from the fact that learning them allows one to rule out certain impossible, but nevertheless coherently conceivable, states of the world. Moreover, one can explain the function played by empirical evidence in providing the justification needed for knowledge of necessary aposteriori propositions. Empirical evidence is required to rule out certain impossible world-states which cannot be known apriori not to be instantiated, with respect to which these propositions are false. (Soames 2005: 83)

If what I have presented in this section is a faithful extension of Sellars's views, then not only can a Sellarsian anti-descriptivist accept Soames's account, but he can give a rational reconstruction of why our metaphysical and epistemic modal notions have these relations (the modal myth of Jones).

5. CONCLUSION

I have argued that when properly interpreted, Sellars is a staunch anti-descriptivist. Not only does he accept most of the conclusions drawn by the more famous anti-descriptivists, but he goes beyond their critiques to reject the fundamental tenet of descriptivism—that understanding a linguistic expression consists in mentally grasping its meaning and associating that meaning with the expression. I have tried to show that Sellars's alternative accounts of language and the mind provide novel justifications for the anti-descriptivists' conclusions. Finally, I presented an example of what I take to be the lessons Sellars's unique brand of anti-descriptivism can teach us.

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17

STRAWSON'S DESCRIPTIVE METAPHYSICS

Hans-Johann Glock

Halfway through the previous century, analytic philosophy was predominantly characterized by hostility or indifference towards metaphysics (Hacker 2003). It is a commonplace that since then analytic philosophy has completely overcome such inhibitions about metaphysics. One can distinguish four main sources of this sea change. In rough chronological order, these are Quine's naturalistic project of pursuing ontological questions by spelling out the ontological commitments of our best scientific theories, Strawson's "descriptive metaphysics," the essentialist metaphysics derived from Kripke's and Putnam's realist semantics, and the Austro-Australian "truthmaker principle" (see Glock 2002). Of these, the work of P. F. Strawson (1919–2006) is currently least fashionable. But Strawson offered the first explicit and elaborate rehabilitation of metaphysics, the one that built most directly on the great metaphysicians of the past, and the one from which we ultimately stand to gain most.

This essay discusses Strawson's contributions to metaphysics with a particular view to his conception of the nature of metaphysics-*cum*-ontology. I shall first dwell on the background of Strawson's metaphysics (sec. 1). Next I shall introduce his idea of descriptive metaphysics and of connective analysis (sec. 2). Sections 3–8 discuss Strawson's main claims: self-conscious experience presupposes a distinction between experience and its mind-independent objects; objective particulars must be situated in a spatiotemporal framework; material bodies are ontologically prior because they sustain this framework; experience and discourse revolve around a fundamental distinction between reference and predication; and both particulars and universals are among our objects of reference. I shall try to reconstruct the main lines of argument by combining ideas from *Individuals* and *Bounds of Sense*. Sections 9–11 defend Strawson's modest conception of metaphysics as a second-order description of our conceptual scheme.

1. THE CONTEXT OF STRAWSON'S METAPHYSICS

Between the 1930s and the 1960s British philosophy was dominated by a loose movement inspired by Moore and Wittgenstein. Its opponents called it "ordinary-language philosophy"(or "Oxford philosophy," since its most eminent proponents—Ryle, Austin, Grice, and Strawson—were based in Oxford). They themselves preferred labels such as "conceptual analysis" or "linguistic philosophy," for they regarded philosophical problems as conceptual and concepts as embodied in language.

Strawson was the leading member of the later phase of postwar conceptual analysis at Oxford. Among the influences on his thought are giants of yore such as Aristotle, Hume, and Kant, as well as pioneers of analytic philosophy such as Moore, Russell, and Wittgenstein. He also acknowledges his debt to his erstwhile teachers and later colleagues Ryle, Austin, and Grice. Nevertheless, he writes, "I don't think that you will detect many traces of [the method of ordinary-language philosophy] in my work" (1995, 15; see also18). This is correct insofar as Strawson's style always differed slightly from that of Ryle and Austin. While his writings are lucid and elegant, they develop more austere and abstract arguments, focus less on specific expressions, and rely less on vivid examples. As regards content, however, Strawson's early work was emblematic of linguistic philosophy in two respects. For one thing, it provided the most cogent defense of its methodology against ideal-language philosophy (see below). For another, more than any other linguistic philosopher Strawson criticized in detail the orthodoxies of logical analysis, and he did so by invoking ordinary use. His later writings are more constructive and have led linguistic philosophy back to metaphysics along Kantian lines. But in spite of this shift, there is an abiding concern with describing the most general and pervasive features of human thought about the world, in particular the operations of reference and predication, and with the objects and presuppositions of these operations.

When Strawson started teaching, the questions that preoccupied him "were questions in the philosophy of logic and the philosophy of language . . . I had become deeply concerned with the matter of singular reference and predication, and their objects, a topic which has remained central to my thought throughout my working life" (1998, 7; see also 1995, 1, 9). The first upshot of this preoccupation was "On Referring" of 1950, a famous attack on Russell's celebrated theory of descriptions. According to Strawson, a sentence like

(1) The present king of France is bald

is neither true nor false, rather than simply false. Furthermore, (1) presupposes rather than entails the existence of the present king of France; that is, that existence is a necessary

precondition of the statement being either true or false. Strawson accuses Russell of confusing meaning, which is a feature of type-expressions, with reference and truth, which are features of the uses of expressions. "The present king of France is bald" is meaningful, even though its present use fails to make a statement that is either true or false. In later writings, Strawson separated his diagnosis of truth-value gaps from his central idea, namely, that "identifying reference" is essential to human speech. By trying to paraphrase away singular referring expressions of the form "the so-and-so," Russell misconstrues their distinctive role, which is to single out a particular thing as a topic of speech. By the same token, Quine's elimination of singular terms from his canonical notation in favor of quantifiers, variables, and predicates ignores the fact that the function of predicates can in turn be explained only by contrasting it with that of singular terms (1971, chs. 1, 3–4).

"On Referring" combines two themes that played a central role in Strawson's subsequent work. The first is the scope and limitations of formal logic. *Introduction to Logical Theory* (1952) demonstrated that the predicate calculus—the weapon of choice for logical analysts—does not reveal the true structure of ordinary discourse. The gulf between the truth-functional connectives and the notions of ordinary discourse—notably between "$\supset$" and "if . . . then . . ."—is wider than commonly accepted. Natural languages are distorted by being forced into the Procrustean bed of the predicate calculus. More generally, formal logic is not a sufficient instrument for revealing all the structural (logical) features of natural languages, let alone of any conceivable language or of human thought (e.g., 1992, ch. 8).

The second theme is the character of the complementary operations of reference and predication. This theme was deepened in Strawson's masterwork, *Individuals* (1959). That work also shifted his focus from ordinary language to what he called descriptive metaphysics. The Kantian inspiration behind that project was directly explored in *The Bounds of Sense*. The book is not a straightforward commentary on *The Critique of Pure Reason*, but it provides a brilliant reconstruction of some of its central ideas. As Strawson later put it, it was a "somewhat ahistorical attempt to recruit Kant to the ranks of the analytical metaphysicians, while discarding those metaphysical elements which refused any such absorption" (2003, 9). It is to the general character of Strawson's analytic metaphysics that we must now attend.

2. DESCRIPTIVE METAPHYSICS AND CONNECTIVE ANALYSIS

Descriptive metaphysics is often explained (and criticized) exclusively through its contrast with revisionary metaphysics (e.g., Haack 1998). But Strawson himself characterized the project in a richer fashion. Ultimately, descriptive metaphysics should be understood through a *fourfold* contrast: with revisionary metaphysics, with conceptual analysis, with a historicist conception of metaphysics, and with explanatory metaphysics.

Revisionary metaphysicians such as Descartes, Leibniz, and Berkeley seek to correct our world picture, and not just by altering our empirical beliefs, in the manner of empirical scientists. Instead, they repudiate our entire conceptual framework and ordinary way of thinking, on the grounds that it is delusive and fails to mirror the nature or essence of reality. Descriptive metaphysics, on the other hand, "is content to describe the actual structure of our thought about the world," rather than attempting "to produce a better structure" (Strawson 1959, 9; see also 1995, 5). Strawson's role models here are Aristotle and Kant.

Descriptive metaphysics differs from the conceptual analysis of previous Oxford philosophy not in "kind of intention" but in its greater "scope and generality." It seeks to "lay bare the most general features of our conceptual structure." The "close examination of the actual use of words" may be the only "sure way in philosophy," yet it is insufficient to reveal these "general elements" and "structural connections." For these are not visible in the motley of ordinary use, but lie "submerged" beneath "the surface of language" at "a deeper level" (1959, 9–10; 1995, 15).

Strawson also sets descriptive metaphysics apart from metaphysics of the "historical kind"—an approach that conceives of metaphysics as "an instrument of conceptual change, a means of furthering or registering new directions or styles of thought." In *Individuals* Strawson does not associate this project with any particular thinkers. But the idea of metaphysics as registering conceptual change reminds one of Collingwood and Körner, from whom Strawson distances himself in *The Bounds of Sense* (1966, 118–21). They maintained that metaphysics should spell out the constantly altering conceptual preconditions of a particular epoch. And as regards the idea of metaphysics as furthering conceptual change, he may have had Price in mind. Price promoted a "speculative metaphysics" that seeks "to produce a unified conceptual scheme under which all known types of empirical fact may be systematically arranged" (Price 1945, 39), yet without aspiring to produce the correct conceptual scheme, which uniquely mirrors the nature of reality (by contrast with revisionary metaphysics). Strawson acknowledges that metaphysics can engage with conceptual change in both these fashions.

> But it would be a great blunder to think of metaphysics only in this historical style. For there is a massive central core of human thinking which has no history—or none recorded in histories of thought; there are categories and concepts which, in their most fundamental character, change not at all. (1959, 10; see also 1985, 26–27)

Descriptive metaphysics is concerned with the concepts that form the stable core of all human thought.

Finally, descriptive metaphysics contrasts with a philosophical project Strawson has called "explanatory." It explains "not just how our concepts and types of discourse operate, but why it is that we have such concepts and types of discourse as we do; and what alternatives there might be." Explanatory metaphysics investigates the "natural foundations" of our "conceptual apparatus in the way things happen in the world, and in our own natures." And it considers counterfactual conditionals about how our conceptual scheme might change given different empirical conditions (1956, 108; 1967, 317). Descriptive metaphysics, on the other hand, seeks not to provide a (presumably causal and empirical) explanation of how our conceptual scheme depends on contingent background conditions, but rather to describe the various interconnections between the fundamental concepts that constitute the scheme.

The most striking feature of descriptive metaphysics is its Kantian provision that metaphysics is a second-order discipline. Instead of scrutinizing the essence of reality, it reflects on our conceptual scheme, the fundamental structure of thought or discourse. I shall deal with this fundamental difference to traditional metaphysics in section 9. But these demarcations also raise questions to be dealt with straightaway.

The idea that descriptive metaphysics scrutinizes conceptual structures beneath the surface of language may suggest that it pursues aims similar to those of early logical and conceptual analysis (Moore, logical atomism, logical positivism). Nothing could be further from the truth. Strawson later distinguished explicitly between "atomistic," "reductive," and "connective analysis" (1992, ch. 2). Atomistic analysis seeks to break down concepts and propositions into components that are absolutely simple. Strawson regards this program as dead or moribund. Reductive analysis tries to explain complex concepts (e.g., semantic, mental, or moral notions) in terms that are regarded as more perspicuous or less problematic from an empiricist or naturalistic perspective. Strawson resists this ambition on the grounds that the fundamental concepts with which descriptive metaphysics deals "remain obstinately irreducible, in the sense that they cannot be defined away, without remainder or circularity, in terms of other concepts" (1995, 16). He favors connective analysis and thereby abandons the idea that philosophical analysis decomposes or dismantles a complex phenomenon, displaying its simple elements and their mode of composition (1992, 17–19; 1995, 15–17). "Only connect": Strawson transposes E. M. Forster's maxim for the understanding of human life to the understanding of our conceptual framework. Descriptive metaphysics seeks "to establish the connections between the major structural features or elements of our conceptual scheme—to exhibit it, not as a rigorous deductive system, but as a coherent whole whose parts are mutually supportive and mutually dependent, interlocking in an intelligible way" (1985, 22–23). Any conceptual explication or explanation of meaning will eventually move in a circle. But

this does not entail that such explanations must all be trivial or pointless, for there are more or less illuminating circles.

The line Strawson draws between conceptual analysis and descriptive metaphysics raises another problem. For him, reference (picking out an individual item) and predication (saying something about it) are two fundamental functions of thought and discourse. Furthermore, he explores these functions through looking at the use of singular terms and predicates, as any linguistic analyst would do.[1] The difference is that descriptive metaphysics *ab initio* describes this use in terms suitable to its interest in identifying concepts that are highly general, irreducible, basic, and, in a special sense, non-contingent.

These concepts are general in being categorical, that is, in subordinating numerous more specific concepts. Thus concepts of material objects or of events are genera for more specific concepts such as "chair," "lump of sugar," "river," "explosion," "birth." They are irreducible not in being simple and unanalyzable but rather in resisting reduction without circularity. They are basic inasmuch as they are both pervasive and central to the framework of our actual mode of thought (1992, 24).

Finally, they are non-contingent in the sense that they are "limiting" or "*necessary* features in any conception of experience which we can make intelligible to ourselves" (1966, 24, 44, 68; 1992, 26), that is, essential to our conception of the experience of self-conscious beings. The label notwithstanding, Strawson's descriptive metaphysics is not just a descriptive inventory of our actual conceptual scheme. He also adopts a validatory stance. At the end of *Individuals* he writes of commonsensical beliefs in the primacy of material bodies and persons:

> It is difficult to see how such beliefs could be argued for except by showing their consonance with the conceptual scheme which we operate, by showing how they reflect the structure of that scheme. So if metaphysics is the finding of reasons, good, bad or indifferent, for what we believe on instinct, then this has been metaphysics. (1959, 247)

Why can one argue for these beliefs in this fashion? Because, at least according to Strawson, certain features of our conceptual scheme are indispensable, and hence immune to the doubts of skeptics and the reforms of revisionary metaphysicians.[2] Some

[1] Indeed, at least in the non-technical sense, referring and predicating are exclusively linguistic activities, something speakers do with their words, as Strawson stressed in "On Referring."

[2] Strawson later contrasted "validatory or revisionary" with descriptive metaphysics (1985, 23). But the former two are not equivalent. For validatory metaphysics seeks to show that our conceptual scheme is legitimate and hence need not be modified. The paradigm of validatory metaphysics is Kant's transcendental philosophy. And while Strawson abandoned validatory ambitions in his latest phase, they were clearly present in *Individuals*.

concepts and conceptual connections do not just in fact play a central role in our conceptual scheme, but must play such a role in any conceptual scheme we are capable of understanding (more on this in sections 3 and 11).

3. SELF-CONSCIOUS EXPERIENCE AND OBJECTIVE PARTICULARS

Individuals is predominantly Aristotelian in content but Kantian as regards its method. It investigates not *de re* essences but the conceptual framework of our thought and experience. Furthermore, Strawson seeks to establish that certain aspects of this framework are indispensable. Finally, to this end he employs transcendental arguments, to the effect that these features are preconditions or presuppositions of the possibility of things we know to be possible. They are preconditions of types of knowledge, experience, abilities, or concepts that we in fact possess or could not fail to possess.

Individuals starts out by considering preconditions of the possibility of mutual discourse between speaker and hearer. In *Bounds of Sense*, by contrast, we encounter a metaphysics of experience that is not just transcendental in its structure but genuinely Kantian in its materials. Its starting point is in effect the possibility of self-conscious experience, of experiences that each subject can ascribe to herself (but see next section). And its main thesis holds that a necessary precondition for ascribing experiences to oneself is the possibility of distinguishing between one's own experiences and an objective (mind-independent, non-chaotic, and unified) world that they are experiences of. Some of our experiences are of mind-independent things, "objects in the weighty sense" (1966, 73, 88). These "objective particulars," in the terminology of *Individuals*, exist independently of being spoken or thought about by anybody; they include material objects, persons, and spatiotemporal goings-on (events and processes).

With some support and additions from *Individuals*, the main argument of *Bounds of Sense* can be reconstructed as follows:

1. I have a series of experiences (this is common ground between Strawson and his opponents—skeptics and revisionists).
2. I must be able to ascribe these experiences to *me*. That is to say, there is no such thing as an experience without someone whose experience it is, contrary to the "no ownership theory" associated with Lichtenberg, Schlick, and the middle Wittgenstein (Strawson 1959, 3.3).
3. It makes sense to ascribe experiences to myself only if it is possible to distinguish these experiences from something else. This follows from a sound semantic principle: a predicate such as "belongs to me" presupposes a range of distinguishable indi-

viduals of which the predicate can be significantly be asserted, but also significantly be negated (see 1974, ch. 1).

3a. If I am to speak meaningfully of my experiences, it must also be possible to speak about the experiences of others. As *Individuals* argues against the skeptic about other minds, it is a necessary precondition of one's ascribing experiences to oneself that one should also be prepared to ascribe them to others (1959, 94–98).

3b. If I am to speak meaningfully of my experiences, it must also be possible to speak of the mind-independent particulars that they are experiences of. "It seems to me as if this is a heavy stone" makes sense only in contrast to "This is a heavy stone." More generally, the idea of a "subjective order and arrangement of a series of . . . experiences" makes sense only in contrast to the idea of "the objective order and arrangement of the items of which they are experiences" (1966, 101).

4. It must be possible for me to employ concepts of mind-independent things to some of the things I experience.

4. IDENTIFICATION, REIDENTIFICATION, AND THE SPATIOTEMPORAL FRAMEWORK

The main line of reasoning in *Individuals* sets in with (4). Operating with concepts of objective particulars involves "including them in our ontology," that is, accepting their existence. But this presupposes that we can make identifying references to objective particulars. And this in turn means that we must have ways of individuating, of singling out the particular that we are talking about (1959, 16, 203; 1997, 22).

But how is such singular, identifying reference to be secured? Not, Strawson argues against Leibniz and Russell, by description alone, since one can never guarantee that there is one and only one object answering to a description. Eventually, the question "Which particular are you talking about?" can be answered authoritatively only through demonstration. This means that we must be able to locate the objects referred to either directly or indirectly within a spatiotemporal framework of which both we and they are part. Particular identification rests "ultimately on the possibility of locating the things we speak of in a single unified spatio-temporal system" (1959, 38; see also 19–22, 28).[3]

The central importance of a unified framework of space and time is reinforced by the requirement that we be able not just to identify objective particulars but also to reidentify

[3] Although Strawson recognizes that unique reference cannot be secured through description alone, he can be seen as advancing a bundle theory of proper names (1959, ch. 6), which is at odds with the "new theory of reference" developed by Kripke, Barcan-Marcus, and Donnellan. This is not the place to pursue that debate.

them. This requirement does not hold for momentary events that cannot be reencountered, even though they qualify as objective particulars (e.g., 1959, 15). But it holds for the basic particulars that enable us to treat such non-basic objective particulars as mind-independent, namely, for material bodies (see sec. 5 below).

A conceptual scheme that distinguishes between "oneself or one's states" and "items which are not states of oneself" must be such that the existence of the latter is "*logically* independent" of the existence of the former. And this means that the scheme must allow that it is "logically possible that such items should exist whether or not they were being observed, and hence continue to exist through an interval during which they were not being observed" (1959, 72). Hence the basic objective particulars must be relatively permanent or enduring, even if our experiences of them are predominantly transient. By the same token, our reference to mind-independent objects depends on our capacity to reidentify them over time. We need not just "criteria of distinctness" but also "criteria of reidentification." And this once more depends on the possibility of locating them within a single public and unified framework, the framework of the spatiotemporal world (1959, 203, 62–63, 119).

Although material bodies are relatively enduring, they regularly undergo qualitative change. But that change, Strawson argues further, must be orderly enough to allow for the reidentification of some particulars, in spite of a change in some of their qualities. Objective and relatively permanent particulars must be such that they can be brought under sortal concepts with a "prognostic" content. This means that they have dispositions to behave in a predictable manner and thereby sustain "conditional expectations." By contrast to concepts of mere sensibilia such as "gray patch," concepts of genuine objects (magnet, plant, human being) are "necessarily compendia of causal law or lawlikeness." Not every event must be subject to deterministic or even probabilistic laws. But there must be enough causal regularity to allow us to retain the capacity to reidentify at least some abiding objects of experience, notably those around which we construct the spatiotemporal frame of reference (1966, 144–46, 27–28, 84).

5. THE ONTOLOGICAL PRIORITY OF MATERIAL BODIES

Strawson invokes preconditions of (re)identification to establish relations of "ontological priority" between different types of particulars. What he has in mind are not ontological dependencies of the traditional sort, but connections and dependencies between various parts of our conceptual framework. A type of thing *X* is ontologically prior to a type of thing *Y* not because it constitutes the latter or explains its existence. Rather, objects of type *X* are ontologically prior to objects of type *Y* if and only if the identification and reidentification of objects of type *X* is presupposed by the identification and reidentification of objects of type *Y*, but not *vice versa*. We are dealing with

"non-symmetrical relations" of "identifiability dependence" (1959, 17, 51, 59; see Quinton 1973, 246–47).

Strawson maintains that two types of particulars are ontologically basic in this sense and thereby qualify for the Aristotelian title of a (primary) substance (1966, 131), namely, material bodies and persons.[4] Strawson's concept of a material body is "very weak." Any relatively permanent occupant of a space qualifies if it is accessible to observation, at least of the visual kind (1959, 39–40). This includes not just mountains but also holograms, even though the latter lack the tactile properties we normally associate with material bodies. Why are material bodies in this sense basic? Strawson's short answer is that only they possess the features that can sustain the unitary and persisting spatiotemporal framework required for reidentification: three-dimensionality, relative permanence, and observability.

For a longer answer, Strawson argues that other types of particulars are "identifiability-dependent" on material bodies or persons. "Theoretical constructs" such as subatomic particles are (re)identifiable only through macroscopic phenomena with which they are connected. "Private particulars" such as mental events or sense data depend on the persons or animals that have them, because they are observable only through their possessors (1959, 41–46). It has been objected that we can directly observe the pain of a patient in her face (Textor 2007). In most cases, however, the pain is not located in the face of individuals. Rather, it is located in other parts of the body, and merely manifest in facial expressions. Accordingly, it is observable only through the modification of a sentient creature, just as Strawson maintains.

A more promising candidate for ontological equality with material bodies are goings-on, since they are public objects of perception. To ensure relative permanence, we may restrict ourselves to processes rather than momentary events. Strawson's reason for privileging bodies is that we can identify them directly through placing them in a comprehensive spatiotemporal framework set up through other bodies. Davidson (1980, ch. 8) responds that we can similarly identify events/processes through the relation of causal nexus, by placing them in the complete causal chain. But there is a difference. I can locate the bodies in my vicinity, and all other bodies must in principle be locatable through their spatiotemporal relations to these bodies. By contrast, I cannot place in a complete causal order even the events in which I am involved—the changes that I undergo—at this very moment. Only the spatiotemporal framework constituted by material bodies is "humanly constructible," as Strawson puts it. For this reason, we ultimately (re)identify processes through specifying a body or sets of bodies that either undergo them, or are related causally and or spatially with them (Strawson 1959, 46–56; see Textor 2007).

[4] I shall concentrate on the former. As regards persons, see Glock and Hyman 1994.

Another objection is that the identification dependence between events/processes and bodies is mutual. When we claim to recognize a particular body *a*, we necessarily identify *a* with something we have encountered before. And this, it is held, involves reference to an earlier event (Moravcsik 1965). But consider this example:

(2) The chair I am sitting on now is the one you assembled an hour ago.

This may *indirectly report* an event, but it *refers* only to material bodies and persons (Künne 1984, 186–87). Finally, it has been objected that we can reidentify bodies only because we can trace their path through space and time, which in turn presupposes the ability to identify events—namely, those changes of bodies through which they pursue such a path. One problem with this objection is that there seems no conceptual inconsistency in assuming that bodies might never undergo any changes, even in their location, in which case there would not be any *bona fide* events. Be that as it may, even if we cannot identify bodies without identifying events, Strawson has made a convincing case for the weaker claim that only material bodies set up the spatiotemporal framework on which all identification depends.

6. RECOGNITION AND THE SELF-ASCRIBABILITY OF EXPERIENCE

Part I of *Individuals* is concerned with particular things such as historical occurrences, material bodies, and people and their shadows. Part II considers individuals in general. Any subject of discourse or "object of reference," that is, anything that can be "identifyingly referred to," is an individual, an object in the logical sense. This includes not just particulars but also universals such as properties and species (1959, 15, 137).

Strawson accords a primordial status to the distinction between particular and universal. This explains a rarely noted aspect of *Bounds of Sense*. Some passages base the Kantian argument in favor of objective particulars on the self-ascribability of experiences (1966, 28–29). Others, however, try to deduce the latter out of a yet more basic fact, namely, the "conceptualizability of experience." It is part of the "standard-setting definition" of "experience" that it involves a "duality of general concepts, . . ., and particular instances of general concepts" (1966, 25, 20; see also 47, 97, 271–72). Echoing Kant's famous dictum, Strawson declares: "*Thought* about the World requires general concepts; and thought about the *world* requires their application in particular instances" (1975, 6).

"There can be no experience at all which does not involve the recognition of particular items *as* being of such and such a general kind." According to Strawson, it is a necessary precondition of this "recognitional component" that different experiences

should be capable of being ascribed to a single subject. This in turn is supposed to imply that experience cannot have the chaotic character of the "purely sense-datum 'experience'" invoked by empiricists, a "blooming, buzzing confusion" (in the words of William James) like a mélange of after-images (Strawson 1966, 100–101).

This transcendental argument is uncompelling. The first point to note is that recognition here must not be taken in the literal sense of *re*-cognition. A subject *S* can recognize that a particular *a* is *F* without ever having encountered an *F* before. Recognition is merely subsumption of a particular under a concept, an experience of the particular as being of a certain universal kind. But while re-cognition may require the capacity for thoughts such as "I have encountered a thing of this kind before," it is far from clear why any capacity for self-reference is required for recognition. To be sure, experiences involving recognition are self-ascribable in principle. But they can be had by creatures who are incapable of such self-ascription, such as animals. Animals capable of deliberate classification can recognize something as being of a certain kind, without necessarily being capable of self-consciousness (Glock 2010a). Furthermore, while Strawson is right to question the idea of an experience that is nothing but blooming, buzzing confusion, the problem is not that such a mental episode would defy self-ascription. I can ascribe such experiential episodes to myself, as for example in reporting the effects of a concussion. The problem is rather that such episodes are not contents of an experiential judgment, a judgment to the effect *that* such-and-such is the case. I cannot experience, judge, or think that *@#*%^!!!* or even that *red, round, cool, tasty*.

By contrast, I can experience, judge, or think "This (apple) is red, round, cool, and tasty." It is for logical or even grammatical reasons that the string "I judge/think/experience that . . ." requires completion by a well-formed sentence in the indicative.[5] And belief in any propositional content expressed by such a sentence can be self-ascribed by a self-conscious creature. At this point, the Kantian metaphysics of self-conscious experience rests on a logico-semantic phenomenon, what Wittgenstein called "the general propositional form." As Strawson puts it: "The fundamental form of affirmative judgement . . . is that in which we judge that some *general* concept has application in some *particular* case" (1992, 54).

7. SUBJECT AND PREDICATE, PARTICULAR AND UNIVERSAL

Part II of *Individuals* investigates this combination. It explains the logico-grammatical distinction between subject and predicate by reference to the ontological distinction between particulars and universals. Strawson first task is to secure the legitimacy of that ontological distinction. Against skeptics such as Ramsey (1990) he defends the

[5] In spirit, though not in detail, my criticism is in line with Rorty 1970.

Aristotelian idea of a fundamental asymmetry: a particular is that of which things are predicated, but which is not itself predicated of anything.

One way of accounting for this asymmetry is by reference to the different ways in which particulars and universals are introduced into discourse. "Particulars can appear in discourse as subjects only, never as predicates; whereas universals . . . can appear either as subjects or as predicates" (1959, 137). In both cases, introduction into discourse presupposes "knowing what particular or what universal is meant." But whereas "knowing what particular is meant entails knowing . . . some empirical fact which suffices to identify that particular," "knowing what universal is meant does not in the same way entail knowing any empirical fact: it merely entails knowing the language" (1959, 185–86). One cannot successfully refer to Socrates without knowing some empirical fact that singles him out. By contrast, linguistic understanding suffices to introduce a universal such as wisdom, whether through a concrete general term such as "wise" or an abstract singular term such as "wisdom." To be sure, the universal wisdom can be introduced in a way that requires empirical knowledge, as in "the quality most frequently attributed to Socrates." But there is always the possibility of introducing it in a fashion that is independent of empirical knowledge, namely, by providing an explanation of the meaning of a general term or its nominalization.

Nonetheless, this possibility is neither sufficient nor necessary for universals. One can introduce a particular such as the empty set in a way that does not require any empirical knowledge—for example, as the set that has no members, or the set of things that are not identical with themselves. Conversely, universals such as being a business associate of Cheney cannot be introduced without empirical knowledge of some kind (Textor 2007).

Strawson's second proposal starts out from Geach's suggestion that negation attaches to subject expressions but not to predicates. He derives this feature of the subject/predicate distinction from the contrasting nature of empirical particulars and general characteristics: if *U* is a universal, then lacking *U* is also a universal, whereas if *x* is a particular object, there is no such object as other-than-*x*. This is why negation goes with predicates and not with subject expressions (1974, 22–29; 1971, ch. 5). A possible objection to this proposal appeals to Quine's idea (1995, 71–72) of the cosmic complement of an object *x*, namely, the universe minus *x*. It is prima facie feasible to insist that the cosmic complement of *x* is an object other-than-*x*.

Strawson's most promising explanation of the asymmetry is that universals or "general characters" belong to "incompatibility-ranges," whereas particulars do not (1971, 102). Every universal *U* belongs to a range of universals *RU* such that for any particular *x*, if *x* possesses one member of *RU*, it cannot possess any other. By contrast, no particular x is part of a range of particulars *RP* such that, for any universal *U*, if x possesses

U, then no other member of *RP* can possess *U*. The idea is best illustrated at the linguistic level of singular versus general terms (see Künne 1983, 1.1, 3.3; Glock 2003a, 55). In non-quantified statements such as "The Eiffel Tower is 324 meters high," we can replace the general term but not the singular term in such a way that it is logically impossible that the result should have the same truth-value as the original. Many replacements for "the Eiffel Tower" will in fact alter the truth-value, but no replacement from the substitution class of singular terms will do so necessarily: it is logically possible for any material object to be 324 meters high. Again, many replacements of "is 324 meters high" will not lead to a change of truth-value, but there are *always* replacements that will, in our case from the incompatibility-range of height-attributions ("is 400 meters high," etc.).

There is, however, one incompatibility-range to which particulars belong: location in a particular place at a particular time. If x is in y_1, y_2, y_3 at t, then no other thing of the same sortal kind can be. Consequently there is at least one universal such that if a particular x possesses it, no other particular can. Conversely, it may seem that the envisaged incompatibility holds only for some universals, namely, determinates of a determinable such as height, temperature, and so on, but not for others, such as professions. In "Sarah is a physician," we can replace any other label for a profession, and the result will not necessarily have a different truth-value.

But even a universal such as being a physician precludes some other universals, such as being a prime number. Furthermore, the worry that this is a conceptual incompatibility rather than a logical one can be assuaged by invoking negation. Being a physician is logically incompatible with not being a physician. Making use of this idea, we can draw the distinction as follows:

For *any* universal U there is at least one universal U^* such that for *any* particular x, x has $U \Leftrightarrow x$ does not have U^*.

By contrast, the following does *not* hold:

For *any* particular x there is at last one particular x^* such that for *any* universal U, x has $U \Leftrightarrow x^*$ does not have U.

This modified version of Strawson's proposal is immune to the objection from spacetime. While two particulars cannot share a spatiotemporal location, there are plenty of universals they can share. It can also accommodate cosmic complements. For there will always be universals that are shared between a particular and its cosmic complement. At the very least, both must have a location in space and time. Ultimately, therefore, the distinction revolves around the contrast between particulars, which are

mutually exclusive occupants of physical space (the spatiotemporal framework), and universals, which are mutually exclusive denizens of logical spaces.

8. THE EXISTENCE OF UNIVERSALS

A nominalist may accept the legitimacy of the particular-universal dichotomy, yet deny that universals exist. Against this denial, Strawson argues that universals as well as particulars can figure as objects of reference, thereby defending the existence of abstract and intensional entities like properties, kinds and propositions against. More specifically, he resists Quine's extensionalism. The extension of an expression is what the expression stands for or what it applies to. By contrast, the intension of an expression is an aspect of what the expression means—the aspect that determines its extension.

Quine grudgingly accepts the existence of abstract entities of an extensional kind, notably sets, because mathematics and hence the natural sciences are ontologically committed to their existence. At the same time he unconditionally rejects abstract entities of an intensional kind, such as properties or propositions. His rationale is there are no criteria of identity for "intensions": while we can specify conditions under which two expressions have the same extension, we cannot specify conditions under which they are synonymous, that is, have the same intension or meaning (see Glock 2003a, chs. 2–3, 6–7).

Strawson counters these qualms through three moves. He accepts Quine's general idea of ontological commitment: a statement is committed to those objects that must exist if it is true (e.g., Strawson 1959, 15; 1992, 4–50). But he resists Quine's specific criterion of ontological commitment: "To be is to be the value of a bound variable" (Quine 1980, 14–15). This oracular dictum is designed to ensure that only singular but not general terms carry ontological responsibilities, since for Quine only they are accessible to quantification. Accordingly, abstract singular terms such as "redness" but not concrete general terms like "red" commit us to properties.

Yet prima facie, at least, general terms in predicative position are also accessible to quantifiers and hence seem to commit their users to the existence of properties (Strawson 1971, 65–66; 1992, 48–49).

(3) Betty is witty (Fa)

entails not just

(4) Someone is witty ($\exists xFx$)

but equally

(5) There is something Betty is (viz., witty) ($\exists \Phi \Phi a$)

In statements such as (3) Strawson distinguishes between the copula "is," which stands for nothing, and the adjective, which stands for a property. In consequence, he accepts that (5) is an instance of what Quine calls objectual quantification (Strawson 1997, 5, chs. 3–4). This is based on the conviction that all genuine existence statements amount to "There is an object x such that" and invites trouble. Unfortunately, on this assumption, (5) is indeed infelicitous. For it would have to be rendered as

(5′) There is an object Φ such that *a* is Φ

Yet (5) does not claim that there is an *object* (the property of being witty) that Betty is, but merely that there is *something* she is, namely, witty. "There is something which" has a wider scope than "there is an object which." "Something" is syntactically transcategorial: it can quantify into the positions of both singular term, as in (4), and of predicates, as in (5). How precisely such quantification is to be formalized is a moot question (see Künne 2003, 6.2.3). The crucial point, however, is that there are perfectly acceptable idioms of ordinary language that capture quantification into predicate position (Glock 2003a, 56–58). And Strawson is surely right that formalization must pay tribute to the inferences recognized in non-regimented discourse rather than the other way around. Departing from Quine more radically than Strawson himself, we can therefore strengthen the case against extensionalism.

Strawson's second and related move is directed against Quine's program of avoiding commitment to intensions through "critical paraphrase" into canonical notation. Contrary to Quine, the transition from

(6) Betty possesses wit

to (3) does not reduce our ontological commitments. For it is necessarily the case that (3) is true under precisely the same conditions as (6). And whether someone is committed to the existence of certain things depends on *what* she says, not on *how* she says it. The extensionalist nicely fits Strawson's description: "Committed in thought to what we shun in speech, we should then seem like people seeking euphemisms in order to avoid explicit mention of distasteful realities" (1997, 58; see also 1992, 48–49).

Strawson's final counterargument is directed against Quine's standard of ontological admissibility: "No entity without identity." This standard demands that the existence of a type of entity (events, for example) can be accepted only if we can provide criteria or conditions of identity for entities of that type. As we have seen (sec. 4), Strawson himself insists on criteria of identity. "There is nothing you can sensibly talk about without knowing, at least in principle, how it might be identified" (1997, 22). But this is not to underwrite Quine's demand for formal criteria of identity that apply to all objects of that

kind in a rigid and clear-cut fashion. It is not even required that the objects we talk about be enumerable. There are no cast-iron ways of establishing how many colors, intellectual qualities, character traits, literary styles, affective attitudes, smells, and ways of walking or talking (to name but a few) there are. Nevertheless, these things are "as distinctive, as easily recognizable, as anything in human experience," and they are the subjects of "pointful predications" (1997, 23, 35). Indeed, enumerability is a question not of the degree to which certain types of entities are *real*, but of the degree to which the corresponding sortals are *regimented*. There are ways of counting the properties Bohr's 1913 theory ascribes to electrons, simply because that theory draws precise distinctions in these respects. Conversely, although mountains are supremely real, there is no cast-iron method of counting them.

All we need is a way of making clear what we are talking about. In this sense, however, we do possess criteria of identity for determinables such as color or character trait simply by virtue of knowing how to distinguish the corresponding determinates. Although we cannot count colors or character traits, we can distinguish different colors and character traits. That is to say, we can tell that an object is red rather than green, or that a person is arrogant rather than timid. Universals carry their own criteria of identity. In fact, this is a precondition for the possibility of (re)identifying particulars, since the latter requires that particulars can be subsumed under sortal terms, that is, assigned to general kinds.

9. REALITY OR THE CONCEPTUAL SCHEME?

The most striking feature of descriptive metaphysics is its contrast with the characteristic aim of traditional metaphysics: laying bare an esoteric nature or essence of reality hidden behind the appearances (see 1967, 318). Strawson sets descriptive metaphysics the task not of limning the necessary structure of reality, but of elucidating "our conceptual scheme," "the way we think of the world," or "the actual structure of our thought about the world" (1959, 15, 9). By contrast to Quine and the current naturalistic mainstream, Strawson insists that philosophy is not part of continuous with science.[6] In line with Wittgenstein, he maintains that philosophy should not try to rival science by describing or causally explaining reality; instead it should elucidate our conceptual framework (1995, 17).

This reorientation from reality to our thought or discourse about reality is familiar from the linguistic turn of analytic philosophy. What unites otherwise disparate figures like Wittgenstein (in both his early and late periods), most logical positivists, and Oxford conceptual analysts is the idea that philosophical problems are rooted not so much in factual ignorance or error about the world but in confusions and paradoxes that arise out of the way we speak about or conceive the world.

[6] Grice and Strawson 1956 rebuts the attack on the analytic/synthetic distinction on which Quine bases his assimilation of philosophy and science. See Glock 2003a, ch. 3.

Both so-called ordinary-language philosophy and ideal-language philosophy are first and foremost versions of linguistic philosophy. But whereas the former sought to resolve philosophical problems by clarifying our existing language through analyzing or describing it, the latter sought to avoid them by reforming ordinary language. In the work of both Carnap and Quine, logical analysis turns into "logical explication". It replaces philosophically troublesome expressions or constructions through alternatives that serve the cognitive purposes of the original equally well while avoiding drawbacks such as obscurity and undesirable ontological commitments. For instance, talk about numbers can be replaced by talk about sets of sets.

In this debate, Strawson produced a powerful argument in favor of a descriptive, non-revisionist approach. If philosophical problems originate in our actual linguistic framework, as ideal-language philosophers granted, the introduction of a novel framework will merely sweep these problems under the carpet unless its relation to the old framework is properly understood. Once we have elucidated ordinary language, Strawson continued to reason, we no longer require an artificial one. For the problems arise not out of ordinary language as such, but out of its distortion and misunderstanding in philosophical theories (1963; see 1992, 34–35).

This argument only vindicates the priority of conceptual description over conceptual reform when it comes to the linguistic resolution of metaphysical problems. It does not vindicate descriptive metaphysics against the traditional view that metaphysics explores the essence of reality. The problem is all the more pronounced given that Strawson explicitly rejects Wittgenstein's therapeutic vision of philosophy according to which its only legitimate task lies in dispelling conceptual confusions (Strawson 1992, ch. 1). He insists that elucidating our conceptual scheme provides a positive contribution to our self-understanding. Why then should metaphysics be incapable of yielding new knowledge about the world?

To meet this challenge one needs to turn to the Kantian legacy that underlies both the linguistic turn in general and descriptive metaphysics in particular. Kant pointed out a fundamental difficulty in the traditional conception of metaphysics or ontology (see Glock 2003b). On the one hand, by contrast to empirical science, metaphysics purports to be a priori, that is, to yield knowledge that is independent of experience. On the other hand, by contrast to formal logic and conceptual analysis, it purports to describe or explain reality. In other words, metaphysics lays claim to synthetic a priori knowledge. But how is such knowledge possible, given that experience is our only way of finding out about reality? Kant's solution is that synthetic a priori truths cannot be *de re*. Instead of describing mind-independent essences of objects, such truths articulate "necessary preconditions for the experience of objects," that is, the essential features of the way we experience them. The ontological search for essences in reality is thus transformed into a second-order reflection on our conceptual scheme.

To this day, the Kantian challenge to *de re* metaphysics has not been met. Kripkean essentialist metaphysics appears to deliver *de re* necessary truths only because the latter tacitly combine an a priori conceptual element (a claim about certain expressions functioning as rigid designators) with a posteriori scientific claims, or so I have argued (Glock 2002). More recently, Williamson has reasserted that ratiocination alone can yield knowledge of reality: "appeals to the authority of Kant," he avers, "ring hollow, for they are unbacked by any argument that has withstood the test of recent time" (Williamson 2004, 111). But this holds at most for Kant's own explanation of synthetic a priori knowledge through his transcendental idealism. It does not hold for the Kantian challenge to provide a cogent explanation of how *de re* synthetic a priori truths might be possible. Indeed, Williamson himself willy-nilly confirms this diagnosis when he acknowledges that "we do not fully understand how thinking can provide new knowledge." Nevertheless, he continues, "the cases of logic and mathematics constitute overwhelming evidence that it does." While logic and mathematics demonstrate the possibility of non-trivial a priori truths—a point Kant himself emphasized through his notion of the synthetic a priori—it is far from obvious, to put it mildly, that they provide a priori knowledge of reality (see Hacker 2007; Glock 2008, 2010b).

To this extent, Strawson's descriptive metaphysics is at any rate well motivated. Still, a difficulty remains. As we have seen, Strawson contends that places are defined by the relations of material bodies, that material bodies provide the framework for spatial location in general, that they are basic from the point of view of referential identification and reidentification of all other particulars of different categories, that persons have bodies, that the experiences of a person are identifiability-dependent on the identity of the person whose experiences they are, that a condition for the intelligibility of self-ascription of experience is the legitimacy of other-ascription of experience on the basis of logically adequate behavioral criteria, and so on. But what is the precise status of such claims? They are not empirical truths; nor do they fit the standard conception of analytic truths. Nor can Strawson appeal to the category of the synthetic a priori.

According to Kant's transcendental idealism, "we can know a priori of things only what we ourselves have put into them." Synthetic a priori propositions express features to which the objects of experience have to conform because they are imposed on them by our cognitive apparatus in the course of processing "sensations," the material component of our experience. Strawson condemns transcendental idealism as the model of "the mind producing Nature as we know it out of the unknowable reality of things as they are in themselves" (1966, 16). Whatever its merits, transcendental idealism cannot sustain a metaphysical enterprise even of the Kant-Strawson variety. For it depends on a genetic theory—transcendental psychology—that at best boils down to a highly theoretical yet empirical psychological theory and that at worst is simply a fairytale (Glock 2003b, 26–33).

Once transcendental idealism is relinquished, Strawson contends, synthetic a priori propositions are merely a residuum of propositions that are neither analytic nor empirical, even though they "have a distinctive character or status" (1966, 44). For instance, "it does not seem to be a contingent matter about empirical reality that it forms a single spatio-temporal system." For if someone told of a kind of thing and of events that the object undergoes, but insisted that that object was not located at any distance from here, and that those events stood in no temporal relation to now, since they did not belong to our temporal system, we should take him to be saying that the events had not really occurred and that the thing in question did not really exist. In so saying, we show how we operate with the concept of reality. "We are dealing here," Strawson concludes, "with something that conditions our whole way of talking and thinking, and it is for this reason that we feel it to be non-contingent" (1959, 29; see also 24).

As Hacker has pointed out, however, this does not explain the peculiar status of descriptive metaphysics. "The fact that something conditions our whole way of talking does not obviously suffice to explain why we should think of it as non-contingent. Our size conditions at least much of our way of talking and thinking too, but there is nothing non-contingent about it" (2003, 56–57). Hacker's own solution is to treat the propositions of descriptive metaphysics as expressions of norms of representation in Wittgenstein's sense, that is, as rules governing the meaningful use of words. Thus the propositions

(7) Every event is spatiotemporally related to every other event

and

(8) Every event has a cause

are rules for the use of the word "event." Proposition (8), the principle of causation, licenses us "to infer from any event-identification that there is a cause of that event, which may or may not be known (and may or may not be discovered)" (2003, 58).

This treatment of (8) is unsatisfactory. Our conceptual scheme does not simply rule out as nonsensical the expression "uncaused event." Let's assume that one morning we find dinosaur footprints on the ceiling. Let's further assume that we have a reason to abandon the search for an explanation of the footprints, such as that the laws of nature not only fail to provide one but also suggest that none is to be had (the example of quantum mechanics shows that this is at any rate a possibility). Even in that case, we would not cease to call the appearance of the footprints an event. A physical change would be an event, even if a causal explanation of it could

be ruled out *ab initio*. Consequently, being caused is not part of our explanation of the term "event," or of the linguistic rules governing its use. *Mutatis mutandis* for (7). The rules for "event" as such do not preclude calling fictional happenings such as Humpty Dumpty's fall an event, even though it is not spatiotemporally related either to the American invasion of Iraq or to another fictional event such as Gretel's rescue of Hänsel.

Kant is right, therefore, to deny that propositions (7) and (8) are simply analytic. On the other hand, he has not made out a case for the idea that there is a kind of necessity that is not conceptual. We can know a priori of things not "what we ourselves have put into them," as Kant's genetic story had it, but only what we ourselves have put into the *concept* of a thing, or of an object of experience. Unlike most material objects, concepts are creatures of human thought and action. The best path for descriptive metaphysics, accordingly, is to start out from a minimalist idea, also found in *Individuals*, according to which its propositions are "conceptual truth[s]" (e.g., Strawson 1959, 58), that is, articulations of our concepts and the connections between them.

Strawson claims, plausibly, that propositions such as (7) and (8) can have an a priori status only because of their constitutive role in our conceptual scheme. Kant claims, plausibly, that they do not simply explicate the concept of an event. More generally, not all a priori propositions can be treated as definitions or explanations of at least one of their constituent terms. A possible resolution of this quandary runs as follows. First, we need to acknowledge against Kant that not all conceptual or analytic truths are trivial. Next, we need to recognize that some conceptual truths are non-trivial because they are not definitional. The connection between the constituent concepts of such propositions is provided by a third concept, one that does not itself occur in the proposition. Take (7). As Strawson's own treatment suggests, what connects the concept of an event with that of a unified spatiotemporal framework is the notion of reality. Note also that (7) is not simply a consequence of a more general principle, namely, that everything that is real is part of a unified spatiotemporal framework. Facts are real, yet, as Strawson (1971, 195–99) points out, they are not located in space or time.

Similarly for (8). Events must be caused not because random and chaotic changes do not qualify as events but because persistently chaotic events are not possible objects of self-conscious experience. Whether this claim can actually be sustained is notoriously contentious. But if anything can sustain an a priori status of propositions (7) and (8), it is the complex interplay between different concepts. Strawson has shown that descriptive metaphysics holds the promise of establishing this kind of complex conceptual connections, including connections between ontological notions like causation, space and time and epistemological notions like experience.

10. LOGIC, ONTOLOGY, AND EPISTEMOLOGY

My line of reasoning illustrates Strawson's claim that descriptive metaphysics combines logic, ontology, and epistemology as three aspects of one unified inquiry (Strawson 1992, 35, 31; 1966, 47; 1998, 384). That descriptive metaphysics is linked to logic is clear enough. Concepts are essentially employed in propositions, and conceptual connections are embodied in the logical connections between our propositions or beliefs.

The connection between ontology—"the general theory of being" (1992, 35)—and logic derives from Strawson's guiding interest in the functions of reference and predication, and their objects. As mentioned above, he shares Quine's idea that a philosophical contribution to the investigation of what there is can be provided by scrutinizing "ontological commitments," the assumptions about what exists according to a conceptual scheme. Quine's naturalistic program consists in establishing what exists by spelling out what things our best current scientific theories take to exist. Furthermore, in explicating these ontological commitments through his canonical notation he is highly selective. As we have seen, Strawson rejects this revisionary program. He also condemns as "philistinism" the scientistic view that only scientific propositions embody knowledge about reality (1997, 35). Yet he sticks to the idea that existence is linked to the existential assumptions of true propositions logically analyzed. We investigate what there is by investigating both the things we refer to and the things we predicate of them in our actual discourse.

> We should ask: "What are the most general categories of things which we *in fact* treat as objects of reference or—what comes to the same thing—as subjects of predication and what are the most general types of predicates or concepts which we employ *in fact* in speaking of them?" (1992, 47)

In this context the contrast between the traditional task of metaphysics and the remit of descriptive metaphysics seems to vanish; indeed, the order of priority between discourse (language, thought) and reality seems reversed. According to *Individuals*, the logico-grammatical subject/predicate distinction does not provide the "foundation" of the ontological particular-universal distinction; rather, it is the other way around (1959, 161). Later Strawson declared it to be "central" to his reflections about reference and predication that "something in reality," namely, the "ontological or metaphysical distinction between *spatiotemporal particulars* on the one hand and *general concepts or universals* on the other" "underlies," "accounts for," or "sustains" the "formal distinction" of subject and predicate (1995, 9; see also 1998, 383).

The apparent conflict with the better-known characterizations of descriptive metaphysics as a second-order conceptual investigation can be dissolved as follows. It is by

reflecting on the prerequisites of thought and discourse that we come to realize the essential role of reference and predication. But that reflection shows that reference and predication presuppose objects of a certain kind, precisely because these objects alone can sustain or account for the functions.

In the final analysis, Strawson declares, the contrast between traditional and descriptive metaphysics, "though real, is not as great as it may look." Whereas the former speaks of the "most general kinds of *things that exist* in the universe," the latter speaks of "the most general concepts or concept-types . . . which we employ in *thinking and talking* about things in the universe." But "it is quite inconceivable that these concepts should have this pervasive or universal employment unless we took it for granted that there were, or existed, in the world things to which those concepts, or concepts of those concept-types, applied" (1992, 33).

11. TRANSCENDENTAL ARGUMENTS

Alas, such passages rekindle another worry, one that dates back to the first critical reactions to Strawson's employment of transcendental arguments. Among the arguments discussed in the wake of Strawson one can distinguish two different types. Both of them employ the idea of a necessary precondition. But they differ at least in their manner of presentation. The first type is deductive in that it can be presented in the following form:

P_1 We have experience (knowledge) of type *K* (or the ability to Φ)
P_2 It is a necessary condition for experience (knowledge) of type *K* that *p*
C Therefore *p*

This is a valid deductive inference. Its special force is supposed to be that P_1 is a premise that the skeptic has granted or could not even coherently deny—notably, the occurrence of self-conscious experience—and that P_2 states a necessary condition of this self-instantiating premise.

Arguments of this form have to contend with two lines of objection. The first questions whether *p* is indeed necessary for *K*. How can we rule out the possibility that there might be other conceptual structures that could sustain a certain type of knowledge or cognitive capacity just as well as our actual conceptual scheme (Körner 1969, ch. 12). Consider the idea that objects must be located in space in order for us to be able to experience them as mind-independent. Strawson's own imaginative fiction of the "sound-world" suggests that while space may be sufficient for enabling such a distinction, it is not necessary, since there are non-spatial alternatives to and analogues of the spatial framework. On the other hand, he concludes that such alternatives are feasible,

if at all, only through a direct analogy to the spatiotemporal framework (1959, ch. 2; see Evans 1980; Brown 2006, 59–64).

A second line of objection concerns P_1. How can it be unassailable to a determined skeptic? Against the argument in favor of the spatiotemporal framework the Humean skeptic will simply deny the very possibility of ever reidentifying enduring particulars.

The second type of transcendental argument addresses this worry. It is elenctic and aims to show that skeptical doubts or revisionary denials are incoherent or self-refuting. As regards our case, the skeptic's own question—whether a particular encountered in once context is identical with a particular encountered in another context—can arise only if there is an abiding system that encompasses both encounters. And this framework provides for "satisfiable and commonly satisfied criteria for the identity of at least some items in one sub-system with some items in the other." The skeptic himself employs concepts that make sense only on the tacit assumption of conceptual connections he explicitly rejects. Therefore the skeptical position could not be stated unless it were unfounded.

> He [the skeptic] pretends to accept a conceptual scheme, but at the same time quietly rejects one of the conditions of its employment. Thus his doubts are unreal, not simply because they are logically irresoluble doubts, but because they amount to the rejection of the whole conceptual scheme within which alone such doubts make sense. (1959, 35; see also 106, 109)

Stroud has confronted this type of argument with three objections. The first concerns the idea that "the truth of what the sceptic doubts or denies is a necessary condition of the *meaningfulness* of that doubt or denial" (1982, 125). According to Stroud, the skeptic can accept the premise of this argument, namely, that the meaningfulness of the notions he uses in order to express his doubts presupposes their validity, which he denies. But instead of withdrawing doubt, he could conclude that these notions are indeed meaningless.

Fortunately, however, it is not up to the skeptic to assert dogmatically that our terms for particulars or mental phenomena might simply be meaningless. These terms have an established use, they are understood and can be explained by competent speakers, sentences in which they occur have determinate truth-conditions, and so on. There are no grounds for suspecting that they are meaningless, short of a general semantic skepticism that Stroud himself seems to regard as self-refuting.

In any event, Stroud concedes that this first objection carries weight only against transcendental arguments that invoke preconditions of the sense of a particular class of terms or propositions. They do not work with regard to preconditions of meaningful discourse in general, presumably because even the skeptic is supposed to stay clear of blatantly self-refuting statements such as "There is no meaningful discourse." Stroud also concedes that there might indeed be a "privileged class" of propositions that state

"necessary conditions of language in general, or of anything's making sense to anyone." Still, even such a transcendental argument would not refute the skeptic:

> For any candidate S, proposed to be a member of the privileged class, the sceptic can always very plausibly insist that it is enough to make language possible if we *believe* that S is true, or if it looks for all the world as if it is, but that S needn't actually be true. (1982, 128)

This objection has been repeated countless times since. But as a general criticism of transcendental arguments it is very peculiar. It amounts to the claim that the premise P_2 of a deductive transcendental argument must always be of the form

P_2' It is a precondition of experience (knowledge) of type *K* that we *believe* that *p*.

Admittedly, some formulations in Strawson—including the passage quoted at the end of the last section—invite such a construal. But not all transcendental arguments are in fact based on such premises, and there is no reason why they should have to be. Wittgenstein's argument against the possibility of a private language is often treated as a transcendental one. According to Wittgenstein, there must be standards for distinguishing between correct and incorrect applications of a word, if the latter is to be meaningful. Wittgenstein's opponent believes that there are such standards even in the case of "private" words, words that cannot be explained to others, even in principle. As Wittgenstein argues explicitly, however, this belief—the mere impression that there are such standards—avails him of nothing. There must be such standards if the private linguist's words are to be meaningful, and this in turn presupposes that the word can be explained to others, not that we believe that it can.

Of course, Wittgenstein's argument might fail. But this would be due to a failure in establishing a premise of form P_2 rather than a success in establishing a premise of form P_2'. In any event, there are sound premises of form P_2. For actions and experiences to be possible, there must be, respectively, agents and subjects of experience. For meaningful discourse to be possible, we must not only believe that there is a language, there must *be* a language. Indeed, it is arguable that in this case the weaker option is not even coherent, since one cannot believe that there is a language without being a linguistic creature.

This leaves Stroud's third objection (1982, 120–23). Strawson maintains that recognizing the warrant we have for attributing mental states to others is a precondition for attributing mental states to oneself. Skepticism about other minds has to employ our concepts of mental states. But those concepts make sense only if one can distinguish between "my mental states" and the mental states of others. And this in turn presupposes that our normal ways of telling that someone else is in a certain mental state must be

"logically adequate kinds of criteria" (1959, 105–6), which warrant the attribution of the mental state. But the skeptic is wont to insist that this does not prove that the attribution is indeed correct. Put differently, we can ascribe mental states to ourselves only if we also ascribe them to others. But this just shows that we must have the concept of other minds, and that we must believe that concept to be satisfied when our criteria are met, not that the concept is actually satisfied by anything in reality. More generally, it seems that transcendental arguments can prove only that our conceptual scheme must possess certain features—for example, that the notion of an objective particular is linked to criteria of reidentification and thus to the concept of unperceived existence, not that these features must be correct (the concepts instantiated).

In *Scepticism and Naturalism* Strawson conceded that transcendental arguments only establish connections within our conceptual scheme, not anti-skeptical conclusions about the existence of things. Nevertheless, skeptical arguments are idle: they cannot persuade us since we cannot help believing, for example, in material bodies or other minds. What unites Strawson's transcendental and naturalistic responses is this: the skeptical challenge is not refuted by reference to allegedly indubitable beliefs but rejected on the grounds that it implies abandoning categories that are indispensable to human thought. "Having given up the project of wholesale validation, the naturalist philosopher will embrace the real project of investigating the connections between the major structural elements of our conceptual scheme" (1985, 19).

But naturalism, as Strawson describes it, does not differ from the non-reductive analysis that always propelled his descriptive metaphysics. Furthermore, if the skeptic abandons the preconditions of human thought, he suffers the kind of self-refutation that transcendental arguments were supposed to reveal. It would therefore be precipitous to rest content with a Humean naturalism, according to which the skeptical doubt is correct though impotent. Even if transcendental arguments cannot establish any ontological conclusions about reality, they may be able to silence the skeptic. If a transcendental argument can show that the skeptic employs concepts that are incompatible with his own doubts, then it prevents him from making a coherent contribution to the debate. That is not the same as proving that we have knowledge, but neither is it a second-best. To silence the skeptical doubt by means of argument is to resolve the philosophical problem that it poses.

Furthermore, deductive transcendental arguments can establish conclusions about reality, provided that they have suitable major premises. The premise that there is meaningful discourse cannot be denied without self-refutation; yet it also yields the conclusion that there is language. Other conclusions about reality can be established if the possibility of *knowledge* is granted. This is something that we should do—not by pain of self-refutation but by pain of being irrational. Moore, in particular, has given us reason for holding that skeptical doubts rest on presuppositions that are more contentious than

the knowledge claims they are used to attack (Glock 2004). The skeptic is irrational because, in defending his doubts, he is willing to repudiate even the most plausible assumptions. This makes it almost impossible to refute him by a knock-down argument. But it also means that it is more rational to assume that we have knowledge of various kinds than to accept the skeptic's conclusions.

This is of course precisely the sort of assumption that deductive transcendental arguments make in their first premise. Given such a premise, moreover, there is no inherent difficulty in drawing conclusions about reality. Thus the so-called Benacerraf problem: if we have knowledge of numbers (as we surely do), then numbers cannot be denizens of a Platonic realm that lies forever beyond the reach of the cognitive capacities of human beings. More generally, once we shed the currently popular prejudice that epistemology can have no relevance for ontology, the following point becomes obvious: if we have knowledge about a particular kind of objects, then those objects must be such that we are capable of knowing them. Transcendental arguments can lead from epistemological premises to ontological conclusions, without appeal to any kind of transcendental idealism:

P1* We have knowledge of objects of type *O*
P2* If we have knowledge about objects of type *O*, then objects of type *O* have such-and-such properties
C* Objects of type *O* have such-and-such properties

Transcendental arguments of this sort are perfectly legitimate. They presuppose knowledge about *O*, of course. However, if *O* is not God or the end of the universe but, say, numbers, material objects, and other minds, that assumption is licensed. The real contrast is not between metaphysicians who rely on epistemic assumptions and those who do not, but between those who rely on a sane epistemology that grants the possibility of knowledge and those who rely on skepticism. For metaphysicians of the former kind, Strawson's work remains an invaluable inspiration.[7]

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18

D. M. ARMSTRONG AND THE RECOVERY OF ONTOLOGY

Keith Campbell

ORIGINS

It is not easy, after the passage of more than fifty years, to recapture the anti-metaphysical tone of English-speaking philosophy, and still more particularly British philosophy, in the 1950s. There was a great deal of anxious discussion of the nature and possibility of philosophy itself. There was a near consensus that philosophy must reshape itself, given the demise of its traditional program of ambitious—excessively ambitious—projects. Of the projects to be abandoned, metaphysical speculation was chief.

Exacerbating the problem over philosophy's program was the problem of the status of philosophical propositions. Philosophy is an a priori activity, so its results, if correct, must be necessary truths. But the prevailing positivist accounts of necessity required that all necessary truths be analytic, and that all analytic truths be tautologies. Unhappily, tautologies are not only trivial and lacking in real content but also in principle self-evident. Hence the paradox of analysis: How could a correct analysis be difficult? How could it be instructive? If philosophy consists of analysis, how could it be a worthwhile enterprise?

The problem of the nature of philosophy itself emerged starkly when the Wittgenstein of the *Tractatus* (1921) provided a theory of the operation of a theoretically ideal language according to which all significant propositions are contingent. This was reinforced by the great success of A. J. Ayer's positivist *Language, Truth and Logic* (1945), which raised particular problems for the metaphysical elements in philosophy. Their failure on the verifiability test for cognitive significance condemned them as intellectually disreputable. Then the Wittgenstein of the *Investigations* (1953) disheartened us with the suggestion that philosophy was an activity rather than a body of doctrine, and that a proper aspiration for philosophers was to show the fly the way out of the fly bottle.

This crisis in meta-philosophy, that is, this turmoil in philosophers' own opinions as to philosophy's status and its proper aims, methods, and limits, absorbed an enormous

amount of intellectual energy and produced quite a deal of pessimistic literature—the symposium *The Revolution in Philosophy* (Ayer 1956) being one example. The strikingly modest claims for philosophy then current—that the clarification of issues was about the limit of its proper sphere—never gripped quite as thoroughly as the public discussion might have led one to expect. Even in those days Antony Flew, doughty defender of the analytic turn in philosophy that he was, was wont to deride what he dubbed "futilitarianism"—the doctrine that philosophy was, and ought to be, entirely useless.

Nevertheless, in those days it took a bold cast of mind, a disinclination to follow fashion, even a contrasuggestible character, to proceed with philosophy's classic program. That program aims to provide an account of the most general features of reality, the vindication of knowledge, and the foundations of value. Happily, minds with just such a bold cast were to be found, and the nadir of philosophic aspirations, so dominant a feature of those days, has long passed. Whatever there is to be said of the fate of philosophy in the hands of its French custodians, the classic program in philosophy is alive and well in English-speaking philosophy.

This reversal, this recovery of connection with the philosophy of earlier centuries, is a striking change, and D. M. Armstrong's work, as much as that of any other figure, has been instrumental in achieving it. But there has not been a transformation in the work of Armstrong himself, which shows a much higher level of continuity; he never was a Wittgensteinian, never heeded the siren calls of the philosophic pessimists. He was preserved from such temptations by his earliest education in philosophy, which took place at the University of Sydney under the redoubtable John Anderson. Anderson, a charismatic Glasgow-trained professor, ignored the developments of the 1930s and later and persevered with a principled opposition to British Idealism and all its works. He saw his life's task as the formulating and teaching of a systematic, realist, and naturalist philosophy with a traditional syllogistic as its logical core, and a spatiotemporal metaphysic of unfolding process as its cosmology.

Although several positions characteristic of Anderson's system have appeared over the years in Armstrong's writings, he was not, or not for long, an Andersonian. He has, however, retained throughout his career the conception of philosophy's task that he learned as an undergraduate. Although he traveled to Oxford for graduate study at the high tide of Oxford philosophy, he never adopted the then-current Oxford view of the subject, and never supposed that investigations of the uses of language might exhaust its scope.

Philosophy, for him, has always been a fully serious attempt to work toward a comprehensive theory of everything, and questions of ontology are therefore genuine and important. He never entered the methodological debates of midcentury, never showed any interest in arguing that philosophy is more than a tissue of pseudo-questions and linguistic misadventures, or giving reasons to suppose that philosophy in the classical style is indeed possible.

One tale told of Diogenes the Cynic is that on hearing Zeno 's "proofs" that motion is impossible, he made no verbal response but simply rose and walked up and down. Armstrong applied Diogenes's technique to the philosophical minimalists. He went ahead and addressed the issues, and by actually doing metaphysics, he showed that metaphysics can be done. In the conditions of the period, few responses could have been more effective than this riposte *ab esse ad posse*.

COSMOLOGY

The recovery of metaphysics did not, however, begin with ontology proper. In the useful distinction made by Donald Williams, metaphysics divides into speculative cosmology (an account of the most basic and pervasive elements and forces in the world) and analytic ontology (an inventory of the categories of being, such as substance, property, or event, together with an account of the relations, especially of dependence or derivation, among them). After some significant publications in epistemology, already defending a realist stance, it was in speculative cosmology that Armstrong made his metaphysical debut.

A Materialist Theory of the Mind (1968) consolidated the new central-state materialism or physicalism, pioneered by U. T. Place and J. J. C. Smart and championed by Brian Medlin and David Lewis, which became known as the identity theory. Armstrong's book, the first full-scale exposition and defense of the theory, made it the most favored view in the philosophy of mind for an entire philosophical generation. Its successors—the varieties of functionalism—are, from a metaphysical perspective, mere epicycles on the original theory.

In Armstrong's treatment the identity theory essentially involves two stages—a causal analysis of the key psychological concepts (the first stage) is complemented by a contingent and a posteriori identification of those causes with structures, functions, and/or processes in the central nervous system. To have a conceptual analysis and a scientific identification running in double harness in this way provides a powerful intellectual position. It provides a built-in flexibility, enabling the theory to appropriate new scientific developments as they emerge, ensuring as far as possible that the philosophy will never be outmoded by progress in science.

The dual structure in the identity theory of mind has as a consequence that the theory as a whole is itself contingent. A conjunction inherits the modal status of its weakest conjunct: contingency trumps necessity, so even if proposed conceptual analyses are necessary truths, the contingency of the scientific component ensures the contingency of the whole. Accordingly, metaphysics and the general scientific account of what is may differ in scope and focus, but they do not differ in logical status, and so can form a continuum.

The conviction that all metaphysics, even in the more abstract realms of ontology proper, has a contingent and hence even provisional status has been a feature of Armstrong's thought from the outset. One important consequence is that even in philosophy there can be no definitive knockdown proofs. This perspective—that of the empirically minded metaphysician—according to which metaphysics and broad-scale physics share a common status as theories always open to revision is not the least of Armstrong's contributions to the revival and current good health of ontology.

The two-stage strategy, which proved so serviceable in the philosophy of mind, Armstrong also used elsewhere in cosmology. For example, Armstrong's claim is that the so-called secondary qualities, such as the colors, are actually complex primary ones. Heat is a something-or-other with the power to make mercury expand in a thermometer. This is a philosophical, analytical thesis. It turns out, a posteriori, as the result of long inquiry, that the transfer of kinetic energy from the molecules of the surrounding substance to the molecules of the mercury in the thermometer is what actually produces the expansion. So heat proves to be a form of kinetic energy (Armstrong 1973). As we will see in the discussion of ontology proper, Armstrong's a posteriori realism in regard to universals is yet another theory with this twofold structure.

Until the 1970s Armstrong's focus was on the cosmological issues that cluster around the project of presenting and defending a comprehensive physicalism that would deal also with issues in perception and the theory of knowledge. From that point, his concerns moved toward ontological issues as classically understood. The bridge from cosmology to ontology was flagged in "Naturalism, Materialism, and First Philosophy" (Armstrong 1977). Armstrong had come to recognize that the deeply entrenched, habitual and almost unreflective link between naturalism in cosmology and nominalism in the theory of universals was not only undermotivated but positively deleterious. A candid study of nominalism reveals it as less and less defensible, and if naturalism is linked to it, then naturalism inherits nominalism's weaknesses. The crucial issue for him was whether a credible theory of universals could nevertheless be fully naturalistic (Armstrong 1988). A physicalistic naturalism that restricts the real world to the realm of space, time, matter, and energy is a constant in Armstrong's philosophy; this is one respect in which he has never departed from the Andersonian doctrine taught in his undergraduate years that so clearly struck a chord with his own cast of mind (Armstrong 1999).

ONTOLOGY PROPER

The work that, more than any other, revived the ancient and medieval controversy over universals was Armstrong's *Universals and Scientific Realism* (1978). This had had some more tentative precursors (Armstrong 1972, 1974, 1975), and there was a sense of

something in the air, a need to reevaluate the nominalism so eloquently presented in Quine's "On What There Is" (1963) and H. H. Price's nominalistic *Thinking and Experience* (1953). *Universals and Scientific Realism* is a full-dress, comprehensive discussion that takes up the issue where it had lapsed in the anglophone world after Bertrand Russell's realist treatment of the problem in *The Problems of Philosophy* (1912). F. P. Ramsey had attempted to bury the question with his "Universals" (1925). Donald Williams and P. Butchvarov both took the issue with full seriousness, with Williams urging a particularist resolution and Butchvarov a universalist one, but at that point theirs were voices crying in the wilderness (Williams 1953; Butchvarov 1966). Putnam proposed a modest and retiring realism as an element in a philosophy of science (1970).

The two-volume *Universals and Scientific Realism* changed all that. Its impact was in the first instance negative. It ended the period of complacent nominalism, in which any philosopher with empiricist leanings took it for granted that properties conceived as universals cannot be given in perception, which detects particulars only, and so can have no proper place in any respectable philosophy. The transformation of the consensus was achieved by the relentless critique of all the many varieties of nominalism in volume 1, *Nominalism and Realism*. This critique pursued predicate nominalism, concept nominalism, class nominalism, and resemblance nominalism, boxing the compass and leaving the nominalist with no refuge. The arguments typically took the form of demonstrating that the proposed theory placed the cart before the horse; dogs, for example, can be truly described using the predicate "dog," fall under the concept "dog," belong in the class of dogs, and resemble one another because they have the property "dog." All the various nominalisms try to put it the other way round, that objects are dogs in virtue of being truly describable by the predicate "dog," or falling under the concept "dog," and so on.

This discussion permanently altered the terms of the debate. There was a flicker of resistance: Michael Devitt defended a version of predicate nominalism, and Quine protested that he was a realist about universals on the ground that he had consistently insisted that we must quantify over sets and numbers (Devitt 1980; Quine 1980). The issue, however, is not the reality of sets, which are not universals but abstract particulars. The issue is the reality of properties, on which Quine is silent.

More recently, there have been attempts to resurrect resemblance nominalism (Rodriguez-Pereyra 2002). For the most part, however, the debate stimulated by *Universals and Scientific Realism* has focused on just which form of realism about properties is to be preferred.

Two features of Armstrong's position are of particular relevance in the context of this anthology. First, he breaks any strong nexus between properties and predicates. Properties are not in the least mere "shadows cast by predicates." With the exception of one passage, he argues that ontology is not to be approached by way of syntax or semantics,

or conducted by a consideration of the most promising logical structures or languages. The exception appears in *A Combinatorial Theory of Possibility* in the discussion of the asymmetry between particulars and universals: "Primary substance is that of which things are predicated, but is not itself predicated of anything. Properties are properties *of* individuals. . . . But individuals are not individuals *of* their properties. . . . So, at any rate, ordinary discourse assures us. It seems reasonable to take this asymmetry recognized by discourse as marking a rather fundamental ontological asymmetry" (1989a, 44).

With regard to properties themselves, the "argument from meaning" is totally rejected. This is the view that just one property corresponds to every well-formed and significant predicate, and that the property exists in virtue of the existence and good standing of that predicate. As Armstrong presents the case, to a well-formed and significant predicate there can correspond no property, one property, or several properties. For example, no property corresponds to "being the second-largest natural satellite of the earth"; one property corresponds to "having the charge of one electron"; and several different complex properties correspond to "being an oxide of nitrogen."

Second, whether or not a given property exists is a matter for empirical science, not logic, semantics, or philosophical analysis. This is Armstrong's a posteriori realism. He thinks of it as realism about universals, but I think it is better regarded as a realism about properties, which in Armstrong's view are universals. Here we meet again in Armstrong's thought the powerful conception of a two-stage structure. "Being water" is certainly a real state of being, contingently established. What being water involves is in the first instance a matter of spelling out the criteria for being water, so that it can be identified as unambiguously as possible. This is a philosopher's task, and comprises some conceptual analysis and/or some listing of the commonplace platitudes that provide our notion of what water is. That is stage one. Stage two involves the chemists, who establish that water is, to a very close approximation, all and only H_2O. Unlike air, water proves to be one substance, not several, with one fine structure, not several. And it is abundantly exemplified. So "being water" counts as a (complex) property.

A posteriori realism carries with it, as a natural but perhaps not inevitable companion, an Aristotelian insistence that only instantiated properties are real. This has always been a feature of Armstrong's position.

Debates in the ontology of properties, reanimated and redirected by Armstrong's work, took two principal paths. First, does the demise of nominalism and the embrace of properties require a category of universals, or can properties be successfully conceived as a special kind of particular? The particularist line, stemming from the trope theory of Donald Williams, was pressed by Keith Campbell, and others took it up, perhaps with less commitment (Williams 1953; Campbell 1976, 1981, 1990). Armstrong himself considered trope theory as a possibly viable option, especially in *Universals: An Opinionated Introduction*, but also again in *A World of States of Affairs* (Armstrong 1989b, 1997)

The second focus of debate concerned just which sorts of properties there are. Conjunctive, disjunctive, simple, complex, structural, negative, and higher-order properties were all put through their paces and examined for their true worth. Much of this work was done, or at least begun, in *Universals and Scientific Realism* and was carried further by David Lewis in "New Work for a Theory of Universals" and "Against Structural Universals" (Lewis 1983, 1986b).

Although Armstrong is an a posteriori realist with respect to properties and is adamant that properties are not particular but universal in nature, there remains a question over this combination of reality and universality. Property universals are incapable of independent existence. There are no properties except instantiated ones, and in any instance of a property the property can be distinguished, but not separated from, the particular in which it inheres. The particular and its property do not stand in any relation to one another. They are both mere abstractions from the unified item, the state of affairs which consists in something's having a property. The abstracted particular is the "thin" particular, the abstracted quality or relation is the universal. Aristotle's "this-such," the union of particular and property, is the minimum of being. Yet this minimum is itself a particular; this is "the victory of particularity" (Armstrong 1978, 1:115). The universe consists in the particulars that there are, having the properties that they have and the relations they bear to one another. This can be described either as a world of states of affairs or, equivalently, as a world of "thick" particulars. So in what sense are there any real universals? What does it add to realism about properties to insist that they are universals? Armstrong would hold that the addition is a matter of an identity—that the property F belonging to *a* is numerically identical with the property F belonging to another particular *b*. It is far from clear how this identity can be combined with the claim that F is not actually a component or constituent of either *a* or *b*.

When discussing this question in *What Is a Law of Nature?* Armstrong describes the particularity and the propertyhood as "factors" in the states of affairs in which they figure: "The particularity of *a* is a non-vicious abstraction from all the states of affairs in which *a* figures. The property F (or F-ness) is a non-vicious abstraction from all the states of affairs where some particular has F. The factors of particularity and universality are really there in states of affairs" (1983, 84). Unhappily, this situation is too symmetric for Armstrong's purposes. The particular *a* is now a repeatable, a factor numerically identical in each of the different states of affairs that involve it, just as the property F is a repeatable, a factor numerically identical in each of the different states of affairs in which it is involved. So there would appear to be no basis for insisting that the property is a universal in some sense in which the particular is not.

Armstrong discusses this issue as "Ramsey's problem" in *A Combinatorial Theory of Possibility* (1989a, 44). He there distinguishes particulars from universals on three grounds. First is Aristotle's point regarding the grammatical asymmetry in the direction

of predication, mentioned above. Second is that properties and relations have an adicity, while particulars do not. Third, particulars and relations have a quiddity, or nature, whereas particulars lack the corresponding haecceity, or this-ness. The question is whether these distinctions can establish a distinction in category under the constraint that neither particular nor universal is an item in its own right but a mere abstraction.

In *A World of States of Affairs* the emphasis is on the Fregean conception of the property or relation as "unsaturated," which takes up the theme of the adicity of properties and relations (1997, 29f.). This line involves insisting that a zero adicity, as enjoyed by particulars, is no genuine species of adicity whatever.

Much more recently, in *Truth and Truthmakers*, this issue is revisited. The symmetry is recognized—both particulars and properties are "ones running through a many"—but he remains unmoved on the categorical differentiation between particulars and properties, with the latter still claimed to have some special universal character (Armstrong 2004a, 46–48).

The emphasis on states of affairs, already present to some degree in *Universals and Scientific Realism*, came to figure more and more prominently in Armstrong's ontological work, as we shall see. And the issue of just how particulars and properties co-exist in thick particulars continued to engage him (Armstrong 2004b). First, however, he proceeded to put the new realism about properties to work in applications, among the earliest of which was a treatment of the problem of the nature and status of laws of nature.

APPLICATIONS OF ARISTOTELIAN REALISM: LAWS OF NATURE

Let us set aside the issue that properties conceived as universals are actually mere abstractions. In *What Is a Law of Nature?* Armstrong treats universal properties as items in their own right that can themselves have properties and, most crucially, can stand in relations to one another. They can also be arranged in hierarchies of ascending order—indeed, he goes so far as to claim that properties are first-order universals but second-order states of affairs (particulars), which can stand as terms in relations. Laws of nature themselves are simultaneously universals and states of affairs (1983, 172). In view of the original insistence that particular and property are categorically distinct—so universals, as repeatables, can alone solve the one-over-many problem—one is somewhat taken aback to discover that at the next level they can themselves be particulars.

That real universals are a powerful tool in the elaboration of a convincing account of the nature and status of laws of nature is attested by their employment, independently yet virtually simultaneously, by Dretske, Tooley, and Armstrong. The Dretske-Tooley-Armstrong theory of laws of nature is that they are relations between universals. In

Armstrong's account, this is a relation of contingent necessitation. The law that all Fs are Gs is expressed by, and explained by, the relation N(F, G). There can be irreducibly probabilistic laws in which a probabilifying relation takes the place of N, and there can be functional laws relating magnitudes with the more complex form N(P, a Q such that Q = *f*(P)). The relation between functional laws and higher-order properties is expounded in *A Combinatorial Theory of Possibility* (Armstrong 1989a).

Armstrong's strategy in developing his account of laws of nature follows the pattern displayed in his work concerning properties. An entrenched empiricist orthodoxy must be confronted—it was nominalism in the problem of universals, while with regard to laws of nature it is Humean regularity theory. Accordingly, Humean regularity theory is subjected to a thorough, extended critique. Its shortcomings and implausibilities are systematically exposed. Attempts to rescue the theory by elaborating it and making it more sophisticated are subjected to the same treatment, so that by the end of the first part of Armstrong's book, regularity theorists are left facing some very unpalatable choices regarding their account of the difference between true laws and mere coincidences, and regarding the problem of induction.

But if laws of nature consist in a necessitating relation between the properties that they relate, if N (the contingent necessitating relation) holds between F and G, then this provides something no regularity theory can provide: an explanation of why we never find a case of an F that isn't G. It also explains why the counterfactual "Had this been an F, it would have been a G" holds, since it is sustained by a real ontological base—the relation N—whereas merely true universal generalizations (coincidences) notoriously lack the power to sustain the corresponding counterfactual.

Further, the reliability of the world, that element so essential to human serenity and well-being, the element so corroded by the skeptical problem of induction, can be restored as an aspect of the world enjoying a real ontological guarantee. Armstrong's argument claims that all other attempts on the problem of induction fail on the following compulsory question: Even if all Fs up to this point have been Gs, what is to prevent Fs from behaving differently in the future? (To put it another way, what confidence can you place in the constancy of the Fs?)

The Dretske-Tooley-Armstrong reply to the compulsory question is as follows: Laws of nature have the form N(F, G), expressing a contingently necessitating relation between being F and being G, so that whatever has the property F is bound to have the property G. This furnishes a genuine rationale for projecting the generalization that all Fs are Gs from the cases so far encountered to the cases yet to be met. The rationale is that the critical item is the property F, and if F is a universal, it is a numerically identical item in all its instantiations. So whenever or wherever it occurs, F is, inter alia, a property that contingently necessitates G. There can't be an F that isn't a G; if it were not a G, it would not be an F.

This account of the nature of laws of nature clearly has many merits. In particular, it provides a serious rationale for scientists' incorrigible habit of regarding laws as having a role in the sciences going beyond that of mere generalization. Laws provide not only descriptions of how the world runs but also guides to the inner processes governing what happens. This appealing doctrine can be seen as among the first fruits of the decisive break with nominalism that Armstrong had effected in *Universals and Scientific Realism*.

It is not my business here to mount a critique of the view, but there are questions to be answered. For example, if level-one particulars (ordinary things) can gain and lose properties over time, what preserves level-two particulars (universals) from a corresponding variability? On Armstrong's own showing, properties are contingent entities. And if properties could vary in their attributes, what ensures that N is a constant between the Fs and Gs that it relates? N is, after all, but a contingent necessitation, and traditionally what is contingent can be gained or lost. This issue is taken up again later, in *A World of States of Affairs* (Armstrong 1997, 257–58).

APPLICATIONS OF ARISTOTELIAN REALISM: ACTUALISM AND POSSIBLE WORLDS

The twin pillars of Armstrong's philosophy, the factualism that takes states of affairs as the building blocks of reality and the naturalism that operates as a constant self-imposed constraint on acceptable conclusions, come together in his treatment of possibility and possible worlds. His Ockhamist empiricism, which maintains that this world is the only one, clearly faces a challenge in accounting for our modal knowledge. There are truths whose subject matter is not solely what is. Modal truths concern what must be, what cannot be, and what is not but might have been. The problem of specifying truthmakers for such truths is straightforward if we admit possible worlds into our ontology; we can then use the Leibniz formulas of truth in all possible worlds, in no such world, or in at least one such world other than our own. Lewis is the most celebrated of those opting for an expanded ontology as the solution to the problems of possibility and necessity (Lewis 1986a).

This ontologically expansive route is not open to a naturalist actualist such as Armstrong. He stoutly maintains that possible worlds other than our own do not exist, have no being, and are not. "What is merely possible does not exist (or subsist, or have any sort of being)" (Armstrong 1989a, 19; see also 46). His account is Tractarian in spirit and inspiration. The basic units are simple states of affairs (perhaps genuinely atomic, perhaps only relatively so, since states of affairs may be interminably molecular—complexity all the way down). A simple monadic state of affairs comprises a thin particular (a thing or Humean substance considered in abstraction from any of its properties) together with just one of its properties. Simple relational states of affairs comprise *n* thin particulars

related by just one *n*-adic relation. Propositions claiming the existence of such states of affairs have the forms F*a*, R*ab*, S*abc*, and so on.

Now we can introduce the notion of combinations and recombinations. F can be supposed, falsely, to characterize *b*, and so forth. The singular and general terms can be mixed and matched. The resulting propositions will be true or false, as the world proves actually to be. The true atomic propositions will specify actual states of affairs, the false ones merely possible states of affairs. Although merely possible states of affairs have no being, it is convenient to be able to quasi-refer to them. We admit merely possible states of affairs into our discourse in much the same way, and with much the same intent, as we admit useful scientific fictions, such as an ideal gas or a frictionless plane (Armstrong 1989a, 46–48).

The simple states of affairs are to be regarded as Humean independent—that is, they are all, if fully distinct, independent in the sense that they bear only contingent relations of dependence to one another. Any one of them could exist though the others did not; any of the others could exist even if this one did not. Thus a possible world is a conjunction of (actual and/or possible) states of affairs. The only actual real world, ours, is the total conjunction of all the actual states of affairs. All other worlds contain at least some merely possible states of affairs, and so are merely possible worlds.

A comprehensive ontology certainly needs to furnish an adequate account of possibility and necessity. Armstrong's proposals make full use of his Aristotelian realism: in his philosophy the least items "apt for being," that is, capable of standing alone, are states of affairs. Even the simplest states of affairs are complex to the extent that they comprise at least two factors: at least one thin particular and exactly one property or relation that is one-place or many-place. It is this complexity within the simplest states of affairs that gives the combinatorial program its starting point. The mix-and-match schedules rely on the complexity of the states of affairs as comprising several constituents. To regulate the mixing and matching, Armstrong needs a categorical distinction between particulars and properties, so that we ring the changes substituting *a*, *b*, and *c* for one another, and F, G, R, and S for one another, but never substituting F for *b*, so never creating spurious merely possible state of affairs such as FG or *ac*. The Aristotelian realism in respect of properties and relations serves him well here, combined as it is with a real particularism that rejects any bundle theories of substance.

What is far less clear is that the realism about the properties and relations requires that they be universals. In the imaginative mixing and matching that generates the possible states of affairs, we could pair with *b* not F-ness itself but the instance of F that occurs with a, and the scheme will work just as well. There is no need for the states of affairs, actual or possible, that include F as a constituent to all have a numerically identical universal F in every one of them. So the doctrine that properties and relations are universals is doing no work.

The Aristotelian insistence on the instantiation of all real properties and relations is pulling its weight, however. This restricts the possibilities to recombinations involving only actual properties and not merely possible ones. Merely possible properties, unless accommodated somehow as missing elements in a system of determinables along the lines of Hume's celebrated missing shade of blue, would be alien properties. And Armstrong is constrained to deny that there are, or could be, any such simple alien properties or relations. He is able to countenance complex properties not themselves instantiated, provided every one of the components of the complex does have instances. These are combinatorially accessible. But for the simple case, he is bound to reject the alien. That the alien does not exist is a constant in his work. That aliens might be possible he comes to accept by the time of *Truth and Truthmakers* (2004a, 86–89).

The anti-alien constraint on the range of possible worlds is essential to the combinatorialism, which is in turn essential to this naturalistic account of modality. So if this is a cost in the system, it is a price that must be paid.

I am not inclined to take issue too strenuously here. Armstrong can, and does, allow for epistemic possibility to outrun genuine possibility. Although on first consideration it seems to us that the range of possibilities Armstrong allows is too narrow, it may well be that we can imagine, and imagine as possible, situations that a deeper understanding of possibility may reveal as impossibilities. Escher's pictures of impossible buildings come to mind. On the other hand, to use reasoning in this way to constrain intuition does run somewhat against a maxim I heard from Armstrong many years ago: an empiricist should be frugal in admitting actualities but generous when it comes to possibilities.

Armstrong's steady doctrine regarding the nature and status of necessity is that all cases of a necessary link prove, on analysis, to be cases of complete or partial identity. There are no necessary connections between wholly distinct existences (Humean independence); where there are necessary connections, there must be some ontological overlapping involved.

FACTUALISM: THE ONTOLOGY OF STATES OF AFFAIRS

As Armstrong's ontology matured, becoming more and more comprehensive and systematic, the conception of a state of affairs moved steadily to center stage. By the time of the appearance of *A World of States of Affairs* (1997), we have in effect a one-category scheme: states of affairs constitute the only fundamental category. This is a factualism as thoroughgoing as that of the Tractarian Wittgenstein.

The fundamental rationale for admitting states of affairs into one's ontology at all, Armstrong argues, is that for the truth of any proposition—take F*a* as our standard dummy example—the mere existence of a property F and a particular *a* is insufficient,

since both could exist, yet *a* have a property other than F, and F be instantiated in a particular other than *a*. Equally insufficient are the set {F, *a*} and the mereological sum F + *a*, for all of these could exist, yet it still not be the case that F is *a*, for the same reason. To support the truth of F*a*, what is required is the fact that it is F that is *a*, and this crucial union of F with *a* is a state of affairs.

If states of affairs form in this way an essential category, nothing could be more natural, especially for an Ockhamist such as Armstrong, than to explore the possibility of presenting other categories as in one way or another derivative from this single foundation. If the other categories are passed in review, some can be shown to be abstractions from states of affairs; this holds for substance or particularity, the thin particular that does nothing but confer particularity on the state of affairs it belongs to, and for properties and relations, the ways of being or ways of relating, regarded as universals. Some categories can be seen as conjunctions or aggregations of states of affairs, as with familiar objects (the thick particulars: shoes, ships, cabbages, and so on), and even nature itself, the space-time manifold and everything in it. Events, changes, and processes are sequences of states of affairs.

Even recalcitrant items, the so-called abstract objects—the subject matters of mathematics and logic (numbers, geometric figures, classes, propositions, and the relations between them)—so deeply resistant to a naturalizing treatment, are furnished with accounts in terms of natural spatiotemporal states of affairs.

It is only by such categorical reductions that Armstrong can maintain his core claim that the entirety of being consists in all and only the first-order states of affairs making up this physical, spatiotemporal natural world, plus some select higher-order ones. Among the higher-order states of affairs are the totality state of affairs needed to ensure that the sum of all the first-order states of affairs is indeed the complete box and dice. This totality state of affairs does sterling service also in his non-inflationary account of negative facts. The contingently necessitating relations among universals that provide the underpinnings for causation and natural law also belong here.

His methods remain non-semantic. The case against nominalism developed in *Universals and Scientific Realism* (Armstrong 1978) is described as an argument to the best explanation for the similarities and differences we encounter in the world (Armstrong 1989a, 39). The states-of-affairs ontology is described as a world hypothesis. (Armstrong 1997, 1). Metaphysics is an enterprise in which a better theory is to be worked toward through a sifting of alternatives, all of which are at least prima facie viable, as is illustrated by his table and discussion of universalism and categoricalism in the philosophy of properties in *Truth and Truthmakers* (2004a, 45). Such a manner of proceeding will with luck yield a best option, but never anything apodeictic. The status of metaphysics thus reflects the status of its subject matter. All first-order states of affairs are contingent—here the Humean in Armstrong shows itself. Since his universals

are abstractions from contingent states of affairs, their existence is in turn contingent. Armstrong does not resile from this implication.

Furthermore, as he makes clear in *Truth and Truthmakers*, while it is a necessary truth that there is at most one world, the existence of this one world is contingent, and it is a possibility that there might have been nothing at all (2004a, 89–91). A consequence of this, of course, is that there are no necessary beings, not even in mathematics.

The strategy in developing this contingent ontology remains a two-stage one. It is for philosophy to furnish the frame of categorical possibilities. It is for developing natural science (especially physical science) to provide the concrete contents, if any, for the various categorical options. This is the a posteriori metaphysic in which Armstrong remains faithful to a scientifically oriented empiricism. Even if the procedure in ontology has an a priori cast, this is at most only relatively a priori, since its discussions rest on the broad base of everyday general experience of space, time, matter, causation, and mind. Its conclusions are most definitely not certain or definitive. In *A World of States of Affairs* he speaks ambiguously: states of affairs are contingent beings, but (in the discussion of the possibility of bare particulars) he is reluctant to accept as merely contingently true that the world consists in nothing else (1997, 86).

The one-category states-of-affairs philosophy, in its Armstrongian a posteriori form, is a notably economical one. It includes a sparse account of the world's particulars, properties, and relations. There are many more true descriptions of the world than those that latch directly onto its basic real features. There are many second-class items, properties and relations; Armstrong's position depends also on a wide-ranging supervenience strategy.

Supervenience is first rendered ontically impotent; the claim is that whatever supervenes, while real, is no additional reality. The being of the supervenient is fully covered by the being of that on which it supervenes. Where we can establish a supervenient relation, we enjoy an ontological free lunch (Armstrong 1997, 12–13). This furnishes us with the economies of an ontic reduction—or at least non-inflation—without the inconveniences of providing any full-strength epistemic or semantic reduction. It further allows that we can have access to, and knowledge of, the supervenient without insight into the base—as with the colors.

Appeals to supervenience pervade Armstrong's work from its beginnings in the materialist theory of mind, which avoids both semantic reduction and eliminativism. The common, non-basic properties of the manifest image, all the second-class properties among which we live and move and have our being, supervene on combinations of the genuine properties and relations that science reveals or will reveal. Natural kinds supervene also on properties and relations. Everything necessary or internally related supervenes on contingencies (Armstrong 1997, 156). All mereological aggregates supervene, and as we shall see, so do all numbers and all classes.

The naturalistic treatment of the ontology of mathematics and of logic is among the boldest of Armstrong's proposals, and it rests on a robust view of the supervenience relation. The details have altered somewhat over his career, but in *A World of States of Affairs* (1997, 175ff.) the position presented is this: some properties are unit-determining properties (the ones specified using count nouns, such as "dog," "horse," or "black-swan-presently-on-this-lake"), and some mereological wholes comprising conjunctive states of affairs are made up of items having the unit-determining property (for example, the sum of all the black swans currently on this lake). Let there be seven black swans currently on a lake. Then there is a special relation holding between the property and the mereological whole, namely, that the property belongs to various discrete parts of the whole. In fact, it belongs to the whole seven times over. Here is a state of affairs: the unit-determining property "being-a-black-swan-presently-on-this-lake" sevens the aggregate of swans (that is, applies seven times over to non-overlapping parts of it). This relation is identified as the number 7. Note that it is a higher-order relation, as one of its terms is not a first-order state of affairs but a property. Note further that it is an internal relation, since, given the aggregate and the property in question, it is entailed that the relation holds. What is internal supervenes, and hence implies no addition to being.

So we have the existence of natural numbers in a naturalistic ontology. There are further benefits. Using unit quantities as the unit-determining properties, the account generalizes most comfortably to quantities, proportions, and ratios, and so provides a unified account of natural, rational, and real numbers. Armstrong has the pleasure of being able to claim, with plausibility, both Aristotle and Newton as predecessors in this line of thought.

For cardinals too large to have any instantiation within the natural world (or, for that matter, real numbers too fine-grained to have instances), we retreat to possibility. Mathematical existence need not be real existence. To say that a number n exists is to say that it is possible that there should be an aggregate that is n-ed by some real unit-determining property. This possibilism is continued in *Truth and Truthmakers* (Armstrong 2004a). Since the possible is not actual, not real, it also involves no addition of being to the one natural world. Mathematics is true, but it does not involve an ontological commitment to entities of its own.

Once the numbers have been introduced, as relations with a property as one of their terms, they are then accorded a sort of honorary life of their own and treated for all the world as if they are particulars: submitting to operations, serving as values of functions, and so forth. This is on a par with the treatment of universals (types of states of affairs); although these are avowedly nothing but abstractions, some of them are credited with standing in causal relations to one another (Armstrong 1997, 228–30). To be in a position to countenance such treatment, Armstrong needs to show

that it is legitimate to accord to relations—which are abstractions—the privileges of independent Humean substances, for this is how mathematicians treat them.

Classes are found a home in the natural world in another two-step account. The class is identified with the mereological sum of the singleton classes of all of its members—a step Lewis established as legitimate (Lewis 1991)). Then each of the singletons is identified with a state of affairs—each member has a determinable property, that of having some unit-determining property under which it counts as a unit. The mereological sum of a group of states of affairs is itself a molecular state of affairs. And if the parts of the aggregate are this-worldly, so too is the supervening sum. Thus classes with real members are no addition to the natural total state of affairs. Classes with cardinality greater than the total of units of any kind in this world, if there are any, will be given the possibilist treatment accorded to the very large numbers themselves.

Totality states of affairs are explored. These are non-supervening higher-order states of affairs with a crucial role in setting the world's limits. The mere conjunction of all actual positive states of affairs does not preclude further reality and so sets no limits, but the totality facts do. The conjunction of a totality fact with the conjunction of all positive first-order facts constitutes a new whole, and upon this new whole all negative facts supervene. In this way we can admit all manner of negative truths without conceding that any ontological increase is required to accommodate them.

Cause, law, and nomic connection are revisited, and the doctrine of contingent necessitation between universals as the key to their philosophy is restated and refined.

Armstrong has now presented an ontological system that touches all the bases. The classic schedule of ontology has been run through, and a position presented on every one of the main issues. Moreover, these positions form an integrated whole, resting on the core conception of a state of affairs, so the whole scheme forms a system in the classic style.

TRUTHMAKERS: APPLICATION OF THE SYSTEM IN A CRUCIAL CASE

Can the relatively parsimonious system of states of affairs Armstrong champions deal adequately with the semantic issues involving truth? This is the theme of his latest book, *Truth and Truthmakers* (2004a)—a book he has hinted is to be his last. The problem, in general terms, is that if we wish to adhere to some form of correspondence theory of truth—getting the cart behind the horse, by requiring that how the world is should determine which propositions are the truths—then the great range and variety of truths seems to call for a rich, even baroque universe to sustain them all.

Armstrong is able to argue that in many cases where finding a truthmaker apparently calls for ontological expansion, the naturalistic universe will suffice. The doctrine of

first- and second-class properties and particulars serves him well—derivative states of affairs are quite real enough to furnish truthmakers for a large range of truths. Higher-order states of affairs of various kinds do sterling service also.

But perhaps the boldest stroke concerns unrealized (that is, mere) possibilities. Many philosophers have thought that a truthmaker approach will require the ontologically inflationary addition of merely possible worlds to furnish the requisite truthmakers. Armstrong maintains that this is not so: "A truthmaker for a contingent truth is *also* a truthmaker for the truth that the contradictory of that truth is possible" (Armstrong 2004a, 84). The argument is that since *p* together with "*p* is contingent" entail "not-*p* is possible," whatever is a truthmaker for *p* will also serve as truthmaker for "not-*p* is possible."

The principle that what is entailed by *p* requires no more by way of truthmaker than does *p* itself can be accepted. The difficulty lies with "*p* is contingent." Does the state of affairs T that is the minimal truthmaker for *p* contain within itself its own contingency? If *p* is, for example F*a*, and T is minimal, T is the state of affairs comprising just F and *a*. What is needed, but seems not to be present, is a higher-order state of affairs: the F*a* state of affairs having the property of being contingent. Armstrong takes it that if F*a* is contingent, then this is necessarily so (2004a, 85), and that necessary truth often calls for no new truthmaker. His claim is that it is an analytic, or conceptual truth, that a contingent truth is one whose contradictory is possible, and this implies that the sufficient truthmaker for "The contradictory of a contingent truth is possible" is provided by the meanings or concepts involved. That seems fair enough. But Armstrong requires, for any contingent truth *p*, a truthmaker for "*p* is contingent." His proposal that *p* itself will serve is undercut by his late doctrine that instantiation is necessary: "If *a* exists and F exists, then *a* must be F: a necessary connection between contingent beings" (Armstrong 2004a, 47). The thought here is that had *a* not been F, then not *a* itself, but some very close counterpart having all other properties of *a* but not F, would have existed. In the light of this, it is very hard indeed to see how F*a* alone can provide a truthmaker for "*a* is contingent."

Perhaps truthmakers for mere possibilities nevertheless need not be inflationary; perhaps Armstrong can appeal to the combinations in his combinatorial account of possibility. There are combinatorially accessible worlds in which *a* does not figure at all, and others in which it does figure and does have properties, but F is not one of them. Such worlds provide truthmakers for *p*'s contingency, and as merely possible worlds, they can be seen as occasioning no ontological expansion.

THE IMPACT OF ARMSTRONG'S ONTOLOGY

Armstrong's own system, as he himself acknowledges, is a development of the logical atomism of the early twentieth century, the philosophy of Russell and the early Wittgenstein, but it is an atomism so elaborated and sophisticated, so many-sided and

far-ranging, that it may fairly be claimed as his own. Its steady development over the past forty years has had a substantial and undeniable impact on the course of analytic philosophy. This impact has not, however, taken the form of the creation of a large body of disciples. There is no substantial school of Armstrongians, who adhere to and defend all the main distinguishing views of the master. Armstrong himself, unlike his teacher John Anderson, has never made any attempts to create such a school.

Rather, the example of his own practice has sustained a steady growth in the confidence and scope of unabashedly metaphysical enterprises within a continuing broadly empiricist spirit of enquiry. The flourishing debates that we have witnessed on modality and possible worlds, on laws of nature and essentialism in the sciences, on the nature of number and other mathematical entities, on powers and dispositions, on universals and tropes, on realism regarding space-time, and on time itself and temporal parts have all owed something to Armstrong's specific views and arguments, and have been the better for that. But they have also owed perhaps more to the creation of a prevailing tone in analytic philosophy, a tone in which the classic agenda of philosophy is once more taken for granted as its proper business. And in the creation of such an outlook, Armstrong's contribution has been second to none.

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19

ON TROPIC REALISM

Ilkka Niiniluoto

In this essay I shall give a survey of an ontological doctrine, trope theory, that has been claimed to furnish the world with the "elements of being" (Williams 1953). Tropes as property-instances have been proposed as a serious alternative to universals. Even though tropes thus have a nominalist flavor, my favorite label for the theory is "tropic realism," as I have been interested in its potential for supporting an adequate formulation of critical scientific realism (see Niiniluoto 1999).[1] I shall also relate trope theory to another ontological view, Popper's conception of three worlds (see Niiniluoto 2006): while bundles of tropes constitute physical objects in World 1, properties as classes of similar tropes can be taken to exist in the human-made World 3. Trope theory has also interesting applications in the history of philosophy.

PRELIMINARY REMARKS ON ONTOLOGY

Ontology is the study of the most general aspects of reality. Ontological studies may propose definitions of the fundamental categories that can be used in our attempts to understand the nature of reality. Wholesale ontological theories try to specify the elements of being, along with other existing entities constituted by these elements.

Ontology can be approached from several viewpoints and with different purposes. First, our interest may be in the elaboration and explication of an ontological doctrine. Second, our focus may be in the defense and criticism of rival ontological theories. David Armstrong's treatment of the theory of universals is a paradigm of the contemporary revival of ontological studies in these two senses (Armstrong 1978).

[1] I first used this term in my 1986 lectures on ontology at the University of Helsinki. The lectures were largely inspired by David Armstrong's book *Universals and Scientific Realism* (1978). An earlier version of this article was published in Finnish in Niiniluoto 1995 and presented as a lecture in Graz University on March 16, 1995. Useful critical comments were given in Pihlström 1996. See also Niiniluoto 1999, chs. 2 and 7.

Recent elaborations and evaluations of the trope theory include those by Keith Campbell (1990), Peter Simons (1994), and John Bacon (1995).

Third, ontological notions (e.g., substance, object, universal, trope, property, fact, event, process, cause) may have systematic applications in other areas of philosophy (e.g., philosophy of language, philosophy of mind, philosophy of science). Fourth, ontological concepts may be used as tools of interpretation in historical studies.

Many analytic philosophers who practice systematic ontology have reservations about the Aristotelian conception of metaphysics as "first philosophy": philosophy has no a priori method of giving conclusive answers to questions about existence. Even though simple existence claims about such ordinary things as stones and tables can be established by observation, one may still doubt the extreme view that "metaphysics is the thoroughly empirical science" (Williams 1953, 3). Rather, scientific realists usually emphasize that scientific theorizing is the best way of answering questions about the existence of such unobservable entities as atoms, quarks, genes, and subconscious beliefs (see Tuomela 1985). But the status of such abstract entities as universals and tropes seems to have a different character. They are not directly discussed by any scientific theory, and their existence is not solved by the method of Quinean naturalism, that is, by studying the ontological commitments of our languages (e.g., the everyday colloquial language or the languages of various scientific disciplines).

Armstrong defends a posteriori realism, which maintains that "what universals there are is to be determined *a posteriori*" by "total science," but he admits that such "total enquiry" involves also a priori elements (1978, xv). Similarly, a trope theorist may claim that what tropes there are is to be determined a posteriori. Such projects of descriptive metaphysics acknowledge the possibility of a science-based metaphysics, which is informed by the best available scientific theories, but they also leave room for debates between philosophical positions. These debates involve both conceptual explication and argumentation, which we identified as the two basic activities of ontology. For Armstrong, such activities constitute "an intellectual cost-benefit analysis" (1989, 19). Here the similarity of the evaluation of ontological and scientific theories is striking: the "costs" of a view include internal inconsistencies, incoherence, unclear principles, and unnecessary number and complexity of assumptions, and its "benefits" include coherent understanding, unification of ideas, scope, explanatory power, and new insights. Further, taking into account the third task of ontology, ontological theories should also give interesting applications to our understanding of the categories needed in scientific theorizing and reasoning.

In this essay, I cannot claim any new technical results about trope theory. My main interest is to outline this theory in a way that illuminates its relevance to critical scientific realism (see Niiniluoto 1999). For this purpose, I find it useful to relate trope theory to Karl Popper's ontology of three worlds. But, following the fourth task of ontology, I shall also try

to illustrate the viability of this theory as a conceptual tool in reinterpreting some classical notions in philosophy: Mach's "phenomena" and the "elements" of Wittgenstein's *Tractatus*.

REALISM VERSUS IDEALISM

The term "realism" occurs in two quite different senses in ontological discussions. The first of them is opposite to idealism in its different varieties, and the second is opposite to nominalism.

For a scientific realist, the minimal assumption of ontological realism asserts that at least part of reality is ontologically independent of human minds (see Niiniluoto 1999, 10). This assumption can then be expanded to semantical realism (truth is a semantical relation of correspondence between language and reality), epistemological realism (knowledge about the mind-independent reality is possible), and theoretical realism (the best knowledge about external reality is provided by scientific theories).

Minimal ontological realism is compatible with anti-reductionist views about minds and culture. Popper (1972) distinguished a World 1 of physical objects and processes, a World 2 of subjective mental states and events, and a World 3 of human-made culture and social institutions. Popper's World 1 consists of material nature. In an obvious sense, the elements of Worlds 2 and 3 are not independent of human minds, but their genesis and continuing existence depend on collective human activities and their products. Popper himself argued that, for example, artifacts, works of art, language, and abstract mathematical entities belong to World 3. In this sense, his World 3 is a form of "poor man's Platonism": as mathematical objects (such as numbers, sets, and geometrical figures) do not preexist in the world of ideas, human beings have to make or construct them for themselves (see Niiniluoto 1992). Popper emphasized that World 2 and World 3 entities are real in the sense that they have causal influence, but for abstract entities one could instead appeal to Charles Peirce's criterion of reality: things are real if their "characters are independent of what anybody may think them to be" (Peirce 1931–35, 5.405). Further, both World 2 and World 3 are evolutionary products of the material World 1, but they cannot be reduced to World 1. Thus, the most natural interpretation of this ontological doctrine is emergent materialism (see Niiniluoto 2006). A challenge for a scientific realist, who defends the various stages of realism with respect to World 1, is to analyze the form and viability of realism with respects to Worlds 2 and 3 as well.

Minimal ontological realism asserts that World 1 is ontologically independent of World 2. Thus, it opposes subjective idealism (e.g., solipsism, phenomenalism), which claims that everything in the world is composed or determined by human minds, and objective idealism, which claims that the primary reality is a domain of ideas in the mind of a superhuman objective spirit. Ontological realism also denies social constructivism, a modern variant of objective idealism that urges that all

objects in reality are in some way human mind-dependent constructions or relative to linguistic and cultural categories.

For scientific realists, truth or truthlikeness is an essential dimension in the evaluation of theories (Niiniluoto 1999). But does it make sense to require that an ontological theory be true? Could it be that trope theory is true and the theory of universals is false? This seems to presuppose that the world has a unique categorial structure independent of us, and that the task of serious metaphysics is to reveal this structure (see, e.g., Keinänen 2005). This assumption is rejected by Hilary Putnam's "internal realism": Putnam accepts minimal ontological realism, but denies the existence of a "ready-made world" (1981). We shall return to this issue after our survey of trope theories.

REALISM VERSUS NOMINALISM

Among medieval scholastics, the major debate was between realists and nominalists. Is there something common or identical in things that are not identical, such as a red flag and a red strawberry? Realists answered positively: the same property or universal belongs to both of these things. Plato's transcendent realism located universals such as redness in the eternal and independent realm of ideas. At the same time, this ontological assumption provided a semantics for general terms in language: nouns (such as "strawberry") and adjectives (such as "red") serve as names of special entities. Several paradoxes, discussed already in Plato's dialogue *Parmenides*, arise when one attempts to understand the relation of the redness of a strawberry and the idea of redness. Aristotle's moderate realism took universals to be immanent, always combined with individuals as their forms. A transcendent or moderate realist, who recognizes that relations cannot generally be reduced to properties, has to postulate also relation universals (e.g., loving). Armstrong (1978) accepts moderate immanent realism with the condition that each universal has to have instances in the actual world. Universals are special kinds of physical entities in World 1. They are multiply and undividedly located, and capable of entering into relations with each other. For Armstrong, laws of nature are such relations between universals.

Aristotle combined his moderate realism with a substance-attribute theory of particular things. Physical objects, such as particular strawberries, are constituted by a material substratum and associated attributes that are instantiations of universals. Attributes are linked with an underlying substratum, like needles in a pincushion (Loux 1978). It was hoped that the substratum would help the identification of a particular thing, but the substratum was also criticized as a mysterious support of properties that itself lacks properties. An ambitious attempt to get rid of substrata is Bertrand Russell's bundle theory: particulars are nothing but complexes of compresent universals. One of the difficulties of this theory is its inability to distinguish between numerically identical individuals.

John Duns Scotus found it appropriate to postulate for each particular an individual essence, "thisness" or haecceity. With this stress on individuality, Scotus is "separated from nominalism only by the division of a hair," as Peirce remarked in his 1871 review of Berkeley (see Houser and Kloesel 1992, 87).

Nominalism can be defined as the ontological doctrine that the world consists of particulars and nothing but particulars. A common feature of the different variants of nominalism is the rejection of universals—and hence the denial of transcendent and moderate realism. On the other hand, most nominalists are ontological realists who accept the mind-independent existence of particulars.

Armstrong (1978) formulates and effectively criticizes several forms of nominalism. Predicate nominalism replaces universals with linguistic entities, monadic or polyadic predicates. The tokens of such predicates (for example, "cat") are particulars which exist in World 1. Properties are explained in terms of predication: this berry is red, because we apply the predicate "red" to it. Concept nominalism (or conceptualism, as it was called in connection with the medieval debate) is similar to predicate nominalism, but it locates the predicate in World 2 as a mental entity. Class nominalism explains properties by natural classes of individuals. Resemblance nominalism appeals to similarity with paradigm cases. Finally, ostrich nominalism simply takes predication as a non-analyzable fact without any need of explanation.[2]

All forms of nominalism share a common weakness: they cannot explain why some things (such as strawberries) are red and some other things (such as blueberries) are not red. Bare particulars, which lack qualities or properties, do not give any grounds for predication or membership in a natural class. The most plausible of these doctrines is resemblance nominalism (see Rodriguez-Pereyra 2002), but again particulars should have some characteristics or properties in order to be comparable to paradigm cases by mutual resemblance.

TROPES

Many classical philosophers have recognized the existence of property-instances or quality-instances, such as the-sweetness-of-this-wine, the-wisdom-of-Socrates, or the-softness-of-Cleopatra's-hair. A moderate realist may interpret them as instantiations of the universals of sweetness and softness, but this assumption may be waived and property-instances can be understood as particulars located in space and time. G. F. Stout called them abstract particulars; other names include "concrete properties," "cases,"

[2] Tadeusz Kotarbinski's "reism," which rejects properties and facts and argues that the world consists of particular things located in space and time, can be regarded as a representative of ostrich nominalism (see Niiniluoto 2002).

"moments," and even "Stoutian particulars" (Stout 1923; see also Campbell 1990).[3] Donald C. Williams (1953) coined the term "trope," which is now widely used.

As particulars, tropes are not laden with the same problems as universals. Two redness tropes are distinct entities, and no metaphysically queer multiply realizable universal exists in both of them. Tropes are thus acceptable entities for a nominalist. Hence, one may propose a bold hypothesis that ontology could be based upon tropes. Systems of this kind are called trope nominalism (Simons 1994; Keinänen 2005) or moderate nominalism (Armstrong 1989).

Stout suggested that abstract particulars with distributive unity constitute natural classes that correspond to properties. A more systematic approach was developed by Williams. For him, tropes are "the very alphabet of being" from which everything else in the world can be "literally composed," even though tropes themselves are not in general composed of other sorts of entities. Williams recognized two ways in which tropes may be connected. One is external (position in space and time, especially the relation of concurrence or being present in the same place and time); the other is internal (similarity). According to Williams, the sum of concurrent tropes is a "concrete particular" or "thing" (e.g., a lollipop), and the set of perfectly similar tropes is an "abstract universal" (e.g., a definite shade of redness). The "ancient mystery of predication" can then be dispelled by these constructions: "Socrates is wise" means that "the concurrence sum (Socrates) includes a trope which is a member of the similarity set (Wisdom)."

The trope theory of Williams can be summarized by three theses:

1. Physical objects or things are mereological sums of concurrent tropes.
2. Properties are classes of similar tropes.
3. Predication of the form "Object *b* has the property F" means that there is a trope *t* in class F and *t* is a part of *b*.

Here (1) formulates a bundle or cluster theory of individual things. It differs from the Russellian bundle theory by replacing universals with tropes. As tropes are spatiotemporally located, the problem with numerically identical objects does not appear. It is also important that bundles are defined as sums in the sense of mereology, rather than classes in set theory (see, e.g., Bunge 1977). This allows us to say in (3) that a trope is a part of a thing. However, it seems plausible to think that tropes cannot exist as free-floating independent individuals. As a refinement of (1), Simons (1994) has proposed in his nuclear theory that the relation of concurrence should be replaced by a

[3] This terminology is Hegelian: for Hegel, "abstract" means fewer characters, "concrete" more characters.

stronger unity of the tropes. For this purpose, he employs Husserl's notion of a foundational relation. This means that the existence of object *b* has to be necessary for the existence of trope *t* in it (see also Keinänen 2005).

Condition (2) formulates a set-theoretical construction of properties. The property red is the similarity class of red tropes. The naked individuals or bare particulars of ordinary nominalists do not have meaningful relations of similarity, since resemblance between objects depends upon the similarity of their properties (see Niiniluoto 1987, ch. 1). But, as the quality spaces of Rudolf Carnap's 1928 book *Aufbau* show, it makes sense to speak about similarity, even degrees of similarity, between qualities such as color (see Carnap 1967). Properties have been defined as convex regions in conceptual spaces (Gärdenfors 2000). In the same spirit, such regions define standards of similarity that can be used for the comparison of similarities between tropes, since tropes as property-instances have a qualitative character. This kind of treatment avoids problems that trouble even the best accounts of resemblance nominalism (cf. Rodriguez-Pereyra 2002; Keinänen 2005). Further, it allows properties without actual instances in the world, so Armstrong's puzzle with uninstantiated universals is avoided. The same conclusion about actually empty properties holds if possible tropes—and their sets in possible worlds—are allowed (Bacon 1995).

Condition (3) is a straightforward consequence of (1) and (2). It means that tropes are essential ingredients of truthmakers (see Mulligan, Simons, and Smith 1984).

According to Bennett, events can be understood as tropes (1988, 90). He attributes this view to Leibniz and Kim, and argues against Chisholm's treatment of events by means of universals. All events occurring in the same spatiotemporal zone constitute a concrete event, and to each event *e* one can associate a "companion fact" F(*e*). Event causality between events e_1 and e_2 is then defined by the condition that some part of F(e_1) causes e_2 (ibid., 135). This is one way of applying trope theory in dynamic ontology. The relations of tropes and causality have been discussed also by Campbell (1990).

It is natural to extend trope theory to relations: Dante's love for Beatrice and Richard's love for Elizabeth are two distinct two-place relation tropes. Their similarity class defines the relation of loving (see Bacon 1995). This account is an alternative to treating relations as universals or mere predicates. It applies to external relations that belong to the "furniture" of the world. Spatiotemporal relations belong to these kinds of relations. On the other hand, internal relations hold as a consequence of the nature of the related things (Armstrong 1989, 43). They do not add anything to the world. Resemblance is an example of an internal relation in this sense.

Mereological sums are fusions of entities. If tropes belong to World 1, their mereological sum belongs to World 1 as well. Condition (1) thus gives a definition of physical objects in World 1.

On the other hand, a set of similar tropes, defined by (2), is an abstract entity. According to the Popperian ontology, it belongs to World 3.[4] This means that properties are treated as human-made constructions. Keinänen (2005) calls this kind of view conceptualism, but I think this label should be reserved for the view that properties exist mentally in World 2. The proposal to treat properties as World 3 entities does not make them irreal fictions, however; rather, they are as real as other cultural products.[5] This is one of the reasons I have called trope theory tropic realism rather than moderate nominalism (Niiniluoto 1999).

Our sketch of the trope theory should be sufficient to show why it is an attractive and fascinating view. But it is also clear that there are lots of open problems and challenges in its development. One important issue is its relations to the best scientific accounts of the structure of reality. For example, Mormann (1995) has given an interesting reformulation of the trope theory by means of sheaves, and Campbell (1990) has discussed the relation of tropes to field theories in physics. So far little work has been devoted to tropes in the philosophy of mind. It could be suggested that construction (1) can be applied in World 2 as well as in World 1: mental states are composed of mental tropes. Campbell (1990) has proposed that attribute dualism without substance dualism (i.e., a form of emergent materialism) can be defended by "trope dualism." He also gives some remarks on tropes in the social world, but more-detailed applications of trope theory to World 3 entities remain to be studied.

For systematic ontology, the basic issues with Williams are whether tropes are simple entities without internal constitution, and whether tropes (together with spatiotemporal relations) are sufficient to build up the whole world. After his 1978 book, Armstrong has taken a more favorable view of tropes, but he finds it necessary to combine tropes with the assumption of a material substratum as a separate category. According to this Locke-Martin view (Armstrong 1989; Campbell 1990) or the substance-trope view (Simons 1994; Bacon 1995), tropes are assumed to be instantiated in individuals or pieces of material substratum.

[4] Note, however, that Popper himself did not apply his conception of World 3 to concepts or properties. For Popper, propositions are typical examples of the inhabitants of World 3 (see Popper 1972).

[5] Peirce's subtle reading of Scotus (see Houser and Kloesel 1992, 90–93) can perhaps be understood in this manner. According to Peirce, Scotus maintained that the very same nature (such as "a horse") is universal in the mind but singular *in re*. The real nature that exists in things (such as "this horse") is singular, "yet is actually universal as it exists in relation to the mind." Peirce concluded that whiteness is real, since all white things have whiteness in them. But "it is a real which only exists by virtue of an act of thought knowing it," where this act is "not an arbitrary or accidental one dependent on any idiosyncrasies."

TROPES AND INTERNAL REALISM

Putnam (1981) attacks metaphysical realism, which he characterizes by three theses:

(M1) The world consists of some fixed totality of mind-independent objects.
(M2) There is exactly one true and complete description of "the way the world is."
(M3) Truth is a non-epistemic correspondence relation between language and reality.

Internal realism, instead, regards objects to be relative to descriptions, allows several alternative ways of describing the world, and defines truth as ideal acceptability. In my reply to Putnam, I have argued that the correspondence theory of truth is compatible with conceptual pluralism: one may employ different languages or conceptual frameworks to describe the world, and Tarskian model-theoretic truth can be defined relative to each such conceptualization (Niiniluoto 1999, ch. 7; 2004). There is no ideal single language, nature's own conceptual scheme, which would describe the world in all of its aspects (Niiniluoto 1987). In this way one can accept M3 but deny M2.

Many scientific realists would support M1 by assuming the mind-independent existence of universals and by understanding the nature of things on the substance-attribute model (e.g., Armstrong 1978). Some proposed alternatives to such metaphysical realism seem to presuppose metaphysical versions of nominalism. Raimo Tuomela's careful formulation of internal realism replaces M1, or the ontological myth of the given, by the assumption that the mind-independent and language-independent world is an "amorphic singular mass" (Tuomela 1985, 113). It has no structure until human beings introduce concepts to categorize it and the best science decides how the world is to be "sliced," but still it is said to consist of particulars with causal powers. This view is a combination of Kantian influences with a metaphysical commitment to the bare particulars of radical nominalism. Against this sort of view, I have argued that the world consisted of atoms, trees, and dinosaurs well before human beings appeared on earth and started to create languages. These entities with all of their features were already real in the past, and hence their existence was mind-independent, but they were not identified until they were given descriptive names in human languages (Niiniluoto 1999, 7.3).[6]

If tropes are suggested as the elements of being, one may ask with Sami Pihlström (1996) whether we are committed to metaphysical realism. As we have seen above, many trope theorists would not mind being serious metaphysical realists in the sense of M1. But we may also raise questions about the relations of trope theory and the sort of conceptual pluralism that I am willing to endorse. First, trope theory fits well with

[6] This distinction between existence and identification may seem to be in conflict with Quine's famous dictum "No entity without identity" (see Quine 1969, 23). But Quine's principle concerns our ways of "speaking about objects": when we introduce new entities, identity criteria should be specified.

the minimum assumption of ontological realism, supplemented with the assumption that the mind-independent world is a flux of lawlike causal processes. Second, against a strict reading of M1, trope theory is ontologically flexible: concrete objects and events can be composed in alternative ways as mereological sums of tropes, and therefore alternative ways of individuation of objects, events, and processes are viable. Third, as Bacon observes, ordinary language favors a substance-attribute view of reality and does not include simple names of tropes (Bacon 1995, 5; cf. Bennett 1988). The general descriptive terms of our language refer to classes of tropes (e.g., "red") or to classes of physical objects (e.g., "strawberry"), and such properties and substances can be described in our conceptual systems in different ways. The names of tropes are typically obtained by adding indexical expressions to general terms. Therefore, trope theory does not imply M2 or the existence of a privileged language (Niiniluoto 1999, 32).

TROPES AND PHENOMENALISM

In this last section, I turn to an application of trope theory in the history of philosophy. Here no assumption or claim is made about the validity of this theory. Instead, it is employed to interpret some traditional statements about phenomenalism.

Ernst Mach's 1886 work *Analyse der Empfindungen* is a classical formulation of phenomenalism (see Mach 1959). According to Mach, the world consists of "elements" like "colours, sounds, temperatures, pressures, spaces, times, and so forth" (p. 2). Some permanent complexes of elements are called "bodies." Among such bodies one can include "I" or "Ego," which is associated with feelings, volitions, and memories, and "my body." Likewise, there are other "bodies," and by analogy we can infer that they also contain feelings and memories (p. 33).

Mach's doctrine is usually interpreted as a form of phenomenalism, since it maintains that the world consists of "complexes of sensations." However, he emphasized that the elements are "sensations" (*Empfindungen*) only when they are considered in relation to "my body," but in other functional relations they are "physical objects" (p. 16). As elements are primary with respect to the Ego, and the Ego itself is an indefinite alterable complex of sensations, Mach himself sharply dissociated his views from idealism (p. 34), solipsism (p. 359), and Berkeley (p. 361).

Mach's view is sometimes characterized as neutral monism, since his elements are not classified as material or spiritual. This kind of position was held by Russell in his *Analysis of Mind* in 1921. But Mach's doctrine remains problematic. What happens when the Ego dies and disappears? Mach replied that then the elements "no longer occur in the ordinary, familiar association" (pp. 23–24), but they still maintain their functional relation the body (p. 9). But Mach did not tell what happens if all bodies with Egos disappear. If then all bodies and elements disappear, Mach's position is a

form of subjective idealism, as V. I. Lenin claimed. But if at least some elements are preserved, Mach's position is a form of materialism.

The materialist interpretation of Mach receives some support from the fact that his doctrine can be obtained from Kant's critical idealism by eliminating the things-in-themselves and with them also the transcendental ego, located as it were outside the world of phenomena. Mach clearly rejected the Kantian "transcendental, unknowable ego" (p. 359) and left in his system only the ego as a complex of phenomena. In this sense, Machian elements are not mind-dependent entities.

However, Mach never made it clear whether his elements are singular or generic. For example, G. H. von Wright (1957) asks: "Is the hardness of the surface of my desk here and now one element or is the hardness of many things like tables, chairs, walls, etc. *one and the same* element?" The former answer would imply that Mach's elements are tropes and Mach is a moderate trope nominalist. The latter answer would imply that Mach's elements are universals and Mach is an advocate of moderate immanent realism with a bundle theory of objects. The former alternative is supported by the possibility that several Egos can perceive the same element; the latter alternative is weakened by the fact that Mach never stated that there is only one element of redness.

If Mach can be interpreted as a trope nominalist, his position is in any case radically empiricist or positivist: all things in the world are perceivable. This distinguishes his views from scientific realism. But on the other hand, his position would be close to the empiricist versions of physicalism developed in the Vienna Circe after 1931 by Otto Neurath and Rudolf Carnap. These versions of physicalism—to be sure, formulated in the formal mode of speech without ontological pretensions—accepted physical objects with publicly observable physical properties.

Carnap had developed—again in the formal mode—a phenomenalist constitution system in his 1928 *Aufbau* (see Carnap 1967). Its starting points are "elementary experiences," which are total and undivided momentary experiences—in contrast to Mach's simple elements, which Carnap characterized phenomenally as "the given" or "sense data." The possibility of a constitution system with tropes was not recognized by Carnap, even when he started to follow Neurath's physicalism in 1931. The further developments of Carnap's system by Nelson Goodman were based upon phenomenalist and nominalist starting points as well.

Phenomenalism was also the standard interpretation of Ludwig Wittgenstein's *Tractatus* (1922) in the Vienna Circle. For Wittgenstein, the world is a totality of facts, not of things (1.1), but states of affairs are combinations or configurations of objects (2.01). Objects are simple (2.02), and their complexes make up the substance of the world (2.021). Space, time, and color are said to be "forms of objects" (2.0251), but the nature of the object is not otherwise revealed to the reader. In Moritz Schlick's Vienna Circle, Wittgenstein's "simple objects" were taken to be essentially the same as Mach's elements, so

"elementary propositions" are statements in the phenomenalist language (such as "I feel pain," "I see red"). This interpretation is defended by Heikki Kannisto (1986).

According to Kannisto (1986, 141), Wittgenstein's objects have two aspects: as subsistent forms, objects are universals or types, but as combinations of form and content, objects are particulars or instantiated types. The latter alternative corresponds to Hidé Ishiguro's thesis that a simple object in the *Tractatus* is "an instantiation of an irreducible predicate." A simple object is not a bare particular, but "an instantiation of some property" (Ishiguro 1969). Brian McGuinness (1981) remarks that Wittgenstein's objects cannot be concrete objects or properties of concrete objects, since that would imply that there is something simpler than the simple objects. However, Ishiguro's thesis can be understood as claiming that the simple objects of the *Tractatus* are tropes—just as Mach's elements were interpreted above. They are certainly simpler than the concrete objects that are composed as sums of tropes or properties that are classes of tropes.

Merrill and Jaakko Hintikka (1986) defend the idea that the objects of the *Tractatus* are the immediately given "phenomenological atoms" or "objects of acquaintance." Wittgenstein's great change in October 1929 was the replacement of the phenomenological language with the physicalist language. However, phenomenology should be distinguished from Machian phenomenalism (ibid., p. 72). As Jaakko Hintikka explains, phenomenalism asserts that "we have access only to phenomena, not to things in themselves," while phenomenology allows that the objects of my immediate experience may be actual members of the mind-independent world (1990, 16). Thus, Wittgenstein was never a phenomenalist (ibid., 44). However, if Mach's elements were tropes, then this distinction between Machian phenomenalism and phenomenology becomes problematic. Perhaps Wittgenstein was a true Machian after all when he pronounced that "the world we live in is the world of sense-data, but the world we speak of is the world of physical objects." On the other hand, Wittgenstein clearly differs from Mach by his Kantian distinction between the metaphysical subject and the empirical human soul (Wittgenstein 1922, 5.641). This distinction, central to Husserl's phenomenology as well, was rejected by Mach.

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20

TRANSCENDENTAL PHILOSOPHY AS ONTOLOGY

Sami Pihlström

1. INTRODUCTION

The days of "anti-metaphysics" in the good old Vienna Circle style are, obviously, over. Unlike in the heyday of logical positivism, today a number of leading philosophers, at least in the analytic camp, examine metaphysical problems and construct wide-ranging metaphysical theories intended to solve those problems.[1] Topics such as substance, identity, universals, modalities, and causation continue to be standard issues in twenty-first-century philosophy. Far from having disappeared with the advancement of science, metaphysics is alive and well. Indeed, it occupies a more central place on the contemporary philosophical scene than it used to do. At least it is, according to a number of influential philosophers, still possible to pursue "metaphysics in a post-metaphysical age" (cf. Meixner 2001), that is, to go on debating over universals, modalities, et cetera, even after centuries of anti-metaphysical polemics.

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[1] Let me note that I do not subscribe to any standard dichotomy between "analytic" and "Continental" philosophy in this essay. My examples of metaphysical or ontological theorizing are mainly drawn from philosophers conventionally classified as analytic, but nothing crucial depends on this characterization.

There is, however, considerable disagreement over what exactly metaphysics amounts to. The purpose of this article is to contribute to the ongoing discussion of this issue by arguing that transcendental philosophy—sometimes taken to be strictly anti-metaphysical, sometimes considered an unacceptable form of metaphysics—is indeed a metaphysical (or ontological) project. This, however, does not make it dangerous or philosophically suspect. Its ontological relevance has been clear since Kant himself, the founder of (modern) transcendental thought.[2] After having clarified the way in which transcendental philosophy is a form of ontology, I shall further defend its twofold nature as a project that is both metaphysical and critical of (non-transcendental, pre-critical) metaphysics through a comparison with pragmatism.

A terminological note is in order before I actually begin. I will speak of both "ontology" and "metaphysics" in what follows. This should not be confusing, because I use the word "ontology" roughly in the sense of "general metaphysics" (*metaphysica generalis*), or the science of the most general categories (although I am not entirely happy with the word "science" here).[3] The view I shall put forward in this essay through my discussion of transcendental philosophy is an interpretation of ontology (or general metaphysics) and the notion of an ontological category in which ontology turns out to be a matter both of being and of our thought about or experience of being. These are deeply intertwined, indeed inseparable, as any proponent of transcendental philosophy ought to recognize.

While my discussion is primarily confined to relatively recent literature on these topics, the conflict between the view that transcendental concepts have a place in the "order of being" and the rival view that they are (merely) in the "order of conceiving" (or conceptual order) goes back to the medieval debates over *transcendentalia* (i.e., the most general concepts such as truth, goodness, and beauty), and especially to William Ockham's nominalist criticism of Aquinian (Aristotelian) realism about universals. When speaking about the "transcendental," however, I follow the post-Kantian usage of this term. One of my main concerns is to show that, and how, the transcendental is still in some sense (though not quite in the Aristotelian or Aquinian sense) irreducibly ontological even for a post-Kantian thinker.

Furthermore, I must note that I will approach ontological matters on a rather abstract metaphilosophical level. My main problem is the nature of ontology (or metaphysics), not any particular ontological problem. On the other hand, we shall soon see that this metaphilosophical, second-order issue cannot be disentangled from the first-order issue concerning (metaphysical) realism and its alternatives.

[2] This paper, however, is not a scholarly historical treatment of Kant (unlike Olli Koistinen's essay in this volume).

[3] The term "science," in its Anglophone meaning, carries the potentially misleading restriction to the natural sciences; yet, ontology can undoubtedly be said to be the science of or an inquiry into the most general categories in the sense of *Wissenschaft*, or *scientia*.

2. TWO CONCEPTIONS OF ONTOLOGY

There are two chief rival views of ontology (or general metaphysics) to be found in the history of recent philosophy. Neglecting the medieval discussion, I simply call these the Aristotelian view and the Kantian view. The Aristotelian metaphysician, starting from Aristotle's famous view of first philosophy as a science of Being qua Being, or an inquiry into first principles, believes that the ontological categories she tries to sort out are (or are, at least, intended to be) categories of Being itself, of a world ontologically independent of human conceptual categorization.[4] In contrast, the Kantian thinker—the transcendental philosopher in the sense in which we use this term today—typically rejects such a claim, urging that we cannot know anything about Being as such, or about the things in themselves. The world's or Being's own categorial structure is forever beyond our cognitive reach. Thus, when studying ontological categories, we study the forms of our thought about reality, our conceptual schemes, the basic features of our experiencing and talking about the world, and so on. Lorenz B. Puntel expresses the difference between the two rival positions with admirable clarity:

> Philosophers are in agreement that categories are fundamental classifications that frame the way in which we think and talk about the world. But philosophers disagree as to how to understand the phrase, "our ways of thinking and talking about the world." If one takes the clause "about the world" as having priority in the order of understanding and explanation, that is, as being that clause which determines how the other clause "our ways of thinking and talking" must be interpreted, then categories will emerge as having an ontological status, for they will mark different kinds of items or entities *in the world* as being the most fundamental structures *of the world*. . . . But if we understand "our ways of thinking and talking about the world" in the inverse order by taking the clause "our ways of thinking and talking" as prior, categories will be understood as the most fundamental concepts we can avail ourselves of and/or our most general ways of using language. (Puntel 2002, 110)

Puntel notes that the Aristotelian category of substance has usually been taken to be the most fundamental one, if the notion of a category is interpreted in the ontological sense, while Kantian a priori categories of understanding and the more recent analytic philosophers' linguistic categories or conceptual schemes are examples of the latter meaning of "category," which takes "our ways of thinking and talking" as explanatorily prior (ibid., 110–11).

Similar characterizations of the two rival conceptions can easily be found. Michael J. Loux (2002, 7) sets transcendent metaphysics and (Kantian) critical metaphysics against

[4] Aristotle's conception of being and categories is discussed in Michael J. Loux's article in this collection.

each other, describing the latter as an attempt to delineate "the most general features of our thought and knowledge" and to identify "the most general concepts at work in our representation of the world, the relationships that obtain among those concepts, and the presuppositions of their objective employment." Thus, according to the Kantian conception, metaphysics seeks to characterize our conceptual scheme or framework rather than the world itself (ibid., 8). E. J. Lowe also includes the "neo-Kantian" view among the anti-metaphysical ways of thinking he distinguishes (and criticizes) (2001, 3–8).[5] Peter Loptson, in turn, suggests that "one of the very deepest and most important divisions in post-Kantian philosophy" lies between "those who regard as viable, at least in principle, an essentially unitary project of theorizing about the world and its diverse constituents (including middlesized physical objects, such things as quarks and fields, abstract entities, and free rational conscious agency), and those who think otherwise," labeling these positions "unitarianism" and "anti-unitarianism," respectively (2001, x). There is no relation of logical entailment between what Loux calls transcendent metaphysics and what Loptson calls unitarianism, or between critical (transcendental) metaphysics and anti-unitarianism, but there is certainly a close relation of association between the members of the two pairs. If the world is not ontologically pre-structured, it is easier to think that it is not uniquely structured, either, that is, that its (perhaps numerous) "structures" arise out of our engagements with the world and that these categorizing engagements cannot be accounted for within any unitarian metaphysical scheme.

3. ARISTOTELIAN METAPHYSICS AND THE PROBLEM OF REALISM

If one browses recent metaphysical literature, including the textbooks and anthologies intended for classroom use (e.g., Kim and Sosa 1999; Loux 2002), one finds an almost unanimous commitment to the Aristotelian picture, as contrasted to the Kantian one.

[5] I shall soon get back to Loux's and Lowe's defenses of traditional (Aristotelian) metaphysics. Perhaps a version of what these metaphysicians call the "Kantian" or "critical" conception of metaphysics is at work in Wittgenstein's *Tractatus Logico-Philosophicus*—at least according to Stokhof (2002, 2), who argues that the ontology of the *Tractatus* "is not intended as a theory of the fundamental components and structures of reality per se, but rather as a description of the structure of reality that is presupposed by language and thought," characterizing not how reality ultimately is but "how reality appears in the medium of human language and thought" (see also ibid., 8). Stokhof explicitly says that Wittgenstein's early ontology can be seen as "Kantian" in the sense that it constitutes a condition for the possibility of meaningful language: the basic characteristics of ontological categories such as objects or states of affairs "are not features of some independently existing ontological realm" but are "simply those properties that the world and its constituents must have in order for language to be able to be about it" (ibid., 130). (We need not here discuss the thorny problem of whether Wittgenstein, in the *Tractatus* or elsewhere, can be said to have constructed an ontology at all. We will, however, return to Wittgenstein's later thought in section 5 below).

Accordingly, most contemporary ontologists seem to be metaphysical realists—to use Hilary Putnam's famous expression, without any explicit commitment to the meaning(s) Putnam used to attach to this notion.[6] For example, such leading analytic metaphysicians as D. M. Armstrong and David Lewis are, quite clearly, metaphysical realists. As they theorize about the basic ontological categories they find necessary to postulate—whether these are universals and states of affairs, as in Armstrong's (1997, 2004) case, or concretely existing possible worlds, as in Lewis's (1986) case—they see themselves as "limning the true and ultimate structure of reality" (to use W. V. Quine's appropriate phrase). In Putnamian terms, they attempt to adopt a "God's-eye view" on the world, seeking to formulate an "absolute conception" of reality, a non-perspectival conception (as it were) that is, or aspires to be, given from a perspective that is no genuine perspective at all.[7] The ontological categories these thinkers postulate are, clearly, intended as the world's or nature's own (or, more precisely, their postulations are intended to get the world's or nature's own categories right), although any reasonable metaphysician of course admits that our attempts to categorize reality in terms of its own categories are as fallible as any other human cognitive project. We can only hope to be able to represent the ontological structure of the world reasonably well; we can never claim to be sure of having succeeded in our effort.

These philosophers' commitment to metaphysical realism can easily be documented. Just think about, say, Armstrong's general factualist hypothesis that "the world, all that there is, is a world of states of affairs" (1997, 1), or his deflated combinatorialist conception of modality, according to which merely possible states of affairs cannot be accepted (as they would not belong to the all-encompassing spatiotemporal system of the natural world), and merely contingent, actual states of affairs and their contingent constituents (particulars and universals) serve as truthmakers for modal truths (see ibid., 148ff., esp. 172, as well as Armstrong 2004, chs. 5–6). Armstrong's celebrated truthmaker argument for the postulation of states of affairs is also clearly metaphysically realist: if *a* is F (i.e., universal F is instantiated by particular *a*), then there must be "something about the world that makes it to be the case, that serves as an ontological ground, for this truth," necessitating *a*'s being F; the obvious candidate for this role is the state of affairs of *a*'s being F (Armstrong 1997, 115–16, 139). Armstrong further argues that among the true descriptions of the world,

[6] We are not here concerned with the twists and turns in Putnam's various treatments of metaphysical realism and its alternatives. See, e.g., Putnam 1981 and 1994, as well as Pihlström 1996, 1998, 2002, and 2009. It is quite clear, I believe, that Loptson's (2001) "unitarianism" is a close relative of metaphysical realism.

[7] These metaphorical notions have been widely used in recent philosophy. On the "absolute conception of the world," see Williams 1985; on the possibility of a "view from nowhere," see Nagel 1986. The notion of a "non-perspectival," absolute representation has been criticized by Putnam in a series of works in the 1980s and 1990s (and by many others); cf. Pihlström 2003, ch. 5.

there may be more than one (e.g., the factualist one according to which the world consists of states of affairs and the one according to which it is a spatiotemporal system), but in such cases, again, the world or reality itself provides truthmakers for the truths contained in both of these descriptions, and the factualist description in terms of states of affairs is the "ontologically more fundamental"—though not as easily accessible epistemically and conceptually as the spatiotemporal system description (ibid., 136–37).[8]

We may conclude already at this point that the metaphilosophical problem of the nature of metaphysics (its goals, purposes, and methods) and the genuinely philosophical problem of realism (whether there is a world out there that we did not make up but which exists and has the characteristics it has largely independent of our mental and/or conceptual contribution) are inseparably entangled. Neither of these issues can be settled without taking due notice of the other. Solutions to the problem of realism hardly entail any particular conceptions of the nature of metaphysics, but someone who holds a certain view about one of these problems is likely to hold certain kinds of views about the other one as well. In any case, it is clear that if someone rejects metaphysical realism, denying that there is a (or, rather, the) way the world is independent of human conceptualization, then he is forced to reject at least the strongest versions of the view of metaphysics as an inquiry into the categorial structure of Reality or Being as such.

In addition to first-rate research literature, such as Armstrong's writings, textbooks are filled with defenses of the project of metaphysics as conceived in an Aristotelian fashion. It is repeatedly argued, along realistic lines, that metaphysics is a meaningful enterprise, that it is more basic than any other examination or research we can engage in, and that various forms of anti-metaphysics (whether Kantian, relativist, semanticist, or scientistic) can be rejected.[9] It is no exaggeration at all to say that the mainstream views in contemporary (at least Anglo-American) metaphysics are metaphysically realist—and thus very far from transcendental philosophy. Only the term "category" seems to be common to both.

Loux states his case for Aristotelian (realistic) metaphysics, and against the Kantian view of metaphysics as being merely about our conceptual scheme(s), as follows:

> The central premise in the [conceptual] schemer's argument against traditional metaphysics is the claim that the application of conceptual structures in the representation of things bars us from genuine access to those things; but the defender of traditional

[8] Further evidence for Armstrong's commitment to metaphysical realism can be found, e.g., in his discussions of supervenience, the states of affairs of totality, and the unity of the world (especially in Armstrong 1997). Various metaphysical issues are discussed from the perspective of the theory of truthmaking in Armstrong 2004. For a more detailed discussion of Armstrong's metaphysical position, see Keith Campbell's contribution to this volume.

[9] See, e.g., Lowe 2001, ch. 1; Lowe 2006; the introduction to Van Inwagen and Zimmerman 1998; the preface to Kim and Sosa 1999; and the introduction to Loux 2002.

> metaphysics will point out that we need to employ concepts in our characterization of what the schemer calls a conceptual framework, and they will conclude that, by the schemer's own principles, that entails that there can be no such thing as characterizing the nature and structure of a conceptual scheme. So traditional metaphysicians will argue that if their conception of metaphysics is problematic, so is the schemer's. . . . [T]here is something self-defeating in the conceptual schemer's account of conceptual representation. If the conceptual schemer is correct in claiming that the activity of conceptual representation bars us from an apprehension of anything we seek to represent, then why should we take seriously the schemer's claims about conceptual representations? Those claims, after all, are just further conceptual representations [precluding] our getting a hold on what those claims are supposed to be about—the activity of conceptual representation. (Loux 2002, 10)

Similarly, Peter Van Inwagen and D. W. Zimmerman defend the traditional idea of metaphysics as an attempt to describe things as they are, or Reality. They specifically consider the objection (familiar from logical positivism, for instance) that such a project is meaningless:

> Alfred the anti-metaphysician argues that any proposition that does not pass some test he specifies is in some sense defective (it is, say, self-contradictory or meaningless). And he argues that any metaphysical proposition must fail this test. But it invariably turns out that some proposition that is essential to Alfred's anti-metaphysical argument itself fails to pass his test. (Van Inwagen and Zimmerman 1998, 6)

This is a generalization of the well-known charge against the logical positivists' verifiability criterion of meaning, according to which such a criterion fails to be meaningful in the positivists' own terms, because it is neither an analytic truth nor an empirically verifiable statement.

As our third example, we may take a look at how E. J. Lowe raises related critical points against anti-metaphysics:

> [The neo-Kantian] position is fatally flawed, if its intention is to render "metaphysical" claims legitimate by construing them as not venturing to speak of how things really are, as opposed to how we must *think* of them as being. For *we*, if we are anything, are part of reality ourselves, as are our thoughts, so that to purport to make claims about allegedly necessary features of *our thoughts* while simultaneously denying that anything is being claimed about the nature of "reality" is to contradict oneself. . . . Metaphysical inquiry . . . cannot rest content to describe or analyse the concepts that we happen to have, but should, rather, seek to revise and refine these concepts when

> necessary. But the point of such revision, if it has a point, can only be to render our concepts truer to reality. (Lowe 1998, 6)

Again, we may note here a straightforward acceptance of a metaphysically realistic conception of the world or reality as independent of the human mind, of language, and of conceptual categorization—a world or reality whose own categorial structure ought to be discovered by means of metaphysical inquiry, an inquiry that is (according to Lowe) more fundamental than any empirical scientific inquiry. Still, this world is something that we ourselves are supposed to belong to as well.[10]

4. TRANSCENDENTAL METAPHYSICS: ARTICULATING THE ONTOLOGY OF THE "HUMAN WORLD"

The arguments quoted in the previous section are, in my view, relatively weak. While correctly noting that a certain kind of anti-metaphysical view leads to self-reflective difficulties, they fail to pay attention to the deliberate epistemologization of ontology in the transcendental tradition. While the Kantian does indeed reject the idea that we could cut the world at its own joints, to describe things as they are in themselves, and so on, this does not mean that she would entirely reject the project of categorizing being, or the philosophical problems relevant to this project (e.g., the problem of universals).[11]

[10] To provide one more example, let us note that Loptson (2001, 4) also prefers the conception of metaphysics as "the study of the nature of reality" to the rival conception of it as "a study of our most basic concepts of reality" (i.e., "a study of *us*"). He argues: "This seems to accord better with what we say about other kinds of inquiry. Botany, for example, is the study of plants, not of our concepts of plants. Entomology is the study of insects, not of our concepts of them, and so on. . . . At any rate, if there were a difference between investigating reality itself and a bunch of our ideas or concepts (of anything), and we could choose which inquiry to explore, I think the first would be the more interesting and philosophical" (ibid.). (In his book, Loptson studies a number of standard metaphysical topics, such as categories, substance, modalities, universals, space and time, causality, person, mind, God, freedom, immortality, etc.) Of course, according to the critics of this realist (and unitarian) view of metaphysics, we cannot really "choose which inquiry to explore," because there is no reality-in-itself to be meaningfully examined. Loptson provides several (rather familiar) arguments to combat the view of metaphysics as a "necessarily-consciousness-involving" inquiry (cf. ibid., 5) and finds the Kantian (and other idealist) versions of "anti-metaphysical" arguments unconvincing (ibid., ch. 2). Moreover, he points out that contemporary anti-metaphysicians are not consistently anti-metaphysical (ibid., 24–25): they often "limit their opposition to what has historically and traditionally been only a part of metaphysics" (ibid., 25), holding metaphysical views in other areas (e.g., by embracing atheism, defending the reality of freedom, etc.).

[11] A non-metaphysically-realist metaphysician may even defend the postulation of universals (or perhaps "real generals," such as habits, dispositions, laws, etc., along the lines of Charles S. Peirce's "scholastic realism") within a transcendental philosophical framework disentangled from the metaphysical realism standardly assumed in ontological theories of universals (see, e.g., Pihlström 2003, ch. 3; 2009, ch. 6). For immanent (as opposed to transcendent) realism about universals, defended within an essentially Putnamian picture of internal realism, see Gupta 2002.

For a transcendental philosopher, metaphysics should remain metaphysical, and ontology should not be simply turned into epistemology; rather, what ought to be developed is a metaphysics of the human world—categories of a humanly experienceable (always already categorized and conceptualized) reality, which is something quite different from the metaphysical realist's imagined categorization of Being qua Being. Thus, even if we claim, against Van Inwagen and Zimmerman (1998), among others, that describing Reality itself is an impossible task, we are not committed to the skeptical view that reality—the empirical objects of possible cognitive experience—is out of our reach.

Against Loux's above-cited views, it may be pointed out that the Kantian conception of critical metaphysics by no means precludes our taking seriously conceptual representation itself. We can still study the nature and structure of human conceptualization, or the nature of ourselves as conceptualizers, even if we argue that no representation of Reality itself is possible. Of course, the critic of traditional metaphysics should also claim that a metaphysical description of the true and ultimate nature of conceptualization itself (or of "us") is as impossible as the description of the true and ultimate nature of the mind-independent world is. The picture of conceptual schemes as "screens or barriers between us and things" (Loux 2002, 11) is, in any case, a naive caricature of the Kantian view. Contrary to what Loux supposes, the Kantian metaphysician is self-conscious about his own project of categorization—much more self-conscious than the traditional metaphysician who regards concepts and conceptualization as a polished mirror through which the categorial structure of the concept-independent world itself can (ideally) be seen. Realizing that it is impossible to step outside of one's (perhaps gradually changing) conceptual commitments—one's language-game(s), to use a Wittgensteinian expression—the Kantian philosopher denies that things in themselves can be represented by humanly possible means. But this is not to deny that the world—both the world of ordinary or scientific objects and the reality (the activity) of conceptual representation itself—can be represented. We humans are of course real, and we really do conceptualize the world we live in, a world that is equally real; indeed, we are really here (in the natural and social world) to say this. When pursuing metaphysics, we seek to describe the basic categorial features of such a humanly inhabited world.

While I am as critical of Lowe's criticism of the Kantian view as I am of Loux's, I do find Lowe's discussion of metaphysics as a discipline dealing with possibilities rather than with actualities helpful (Lowe 1998, 9ff.). Such a view can, I believe, be accommodated by a more Kantian-oriented metaphysician. If construed in a pragmatic way that is not metaphysically realist, Lowe's statement that metaphysical necessities (and, correspondingly, possibilities) are ontologically rather than (merely) formally or conceptually grounded—that is, grounded "in the nature of things"—may be accepted, together with his claim that the epistemological status of metaphysical claims is both a posteriori and modal (ibid., 14, 23). Lowe himself says that metaphysical notions (e.g., necessity) are transcendental in the sense of being "not derivative from experience," that is, being notions that are to be

"invoked in construing what experience reveals of reality" (ibid., 10). In short, Lowe more or less ignores Kant's specific transcendental approach to metaphysics and arrives at a conception of metaphysics broad enough to accommodate at least a weakly interpreted transcendental project.

Be that as it may, all the defenders of traditional metaphysics I have cited seem to think that metaphysics is *per definitionem* committed to a realistic picture of the world as independent of human conceptualization and experience. Unfortunately, they are not fair enough to the alternatives of metaphysical realism that have been available in philosophical literature since Kant. As Kant pointed out, empirical realism about ordinary experienceable objects goes well with, and in Kant's view even requires, transcendental idealism, the view that space and time and the categories are human constructions (features of our cognitive apparatus) instead of being properties of things as they are in themselves.[12] Moreover, Loux's "traditional metaphysician," we might add, will be led back to the "conceptual schemer's" problems as soon as it is seen that there is no "antecedently given set of objects about which all metaphysicians agree" and that philosophers disagreeing about categories (i.e., about which categories ought to be postulated) disagree about what objects there are (2002, 15). It is, after all, (only) through conceptual schemes (or, more generally, through our human capacity of representing objects) that we can identify the (or any) objects we may disagree about.

While this counterargument differs significantly from Puntel's more semantic orientation, I agree with Puntel that the two conceptions of ontological category (viz., the Aristotelian and the Kantian—or the ontological and the epistemologico-conceptual one) are "two sides of the same coin" (Puntel 2002, 111, 128). The "root problem" in the approach prioritizing the category of substance is, according to Puntel, the unintelligibility of the presupposed subject of predication (or substratum) on the level of first-order language: this presupposed entity, whether conceived as an individual with a name (*a*) or as the value of a bound variable (*x*), is itself entirely indeterminate, and if everything else (attributes, states of affairs, etc.) is taken away from it, "nothing remains" (ibid., 115). It must be explained, Puntel demands, "under what presuppositions this allegedly determinate character of 'a' or 'x' comes about or makes sense; in other words: what should be explained is the *ontological constitution* of such a subject" (ibid., 116). I share Puntel's worry, but I would phrase my criticism as a more general skepticism about the assumption that metaphysical realism—quite independent of whether its basic ontological category is substance or something else—makes sense. Puntel himself tries to avoid the pitfalls of substance ontology by postulating "prime states of affairs" as the one and only fundamental

[12] Even though I am defending a (broadly speaking) Kantian position here, this essay, to remind the reader once more, is of course not the right place to engage in any historical disputes about the correct interpretation of Kant. On transcendental idealism, however, see section 6 of this essay.

ontological category (ibid., 116ff.), taking his cue from the principle of holistic contextuality, according to which it is only in the context of language as a whole that sentences have semantic values (ibid., 128), and rejecting, accordingly, "atomistic" substances or subjects.[13] However, I see this as yet another form of metaphysical realism, albeit semantically motivated. We still seem to have a fundamental ontological level, in which only one category (that of the prime state of affairs, or "pristate") operates.

The transcendental philosopher rejects metaphysical realism on a much more basic level. No ontological category can be fundamental in the sense in which non-transcendental philosophers have claimed one or more categories to be. It is only through a study of our diverse human ways of experiencing and coping with reality that we can, transcendentally, discern the (epistemologized and conceptualized) ontological structure of reality.

5. FOUR EXAMPLES OF TRANSCENDENTAL METAPHYSICS

We shall now examine this idea in some more detail. This section will substantiate the brief critical points raised above by further analyzing the conception of transcendental philosophy as an ontology of the categorial structure of the human world through brief discussions of (1) Kant's (1990) own views (in which, at least once, transcendental philosophy is claimed to amount to ontology); (2) P. F. Strawson's (1993) reappropriation of the Kantian position in his "descriptive metaphysics";[14] (3) Wittgenstein's (1958) later philosophy, interpreted as a transcendental investigation of the basic features of human reality;[15] and (4) pragmatism, interpreted as an ontologically relevant study of the world-constitutive role played by human practices or habits of action (cf. Pihlström 1996, 2003, 2009). The tension between realism and idealism, in one form or another, is a unifying feature of these philosophical frameworks, none of which simply assumes either a metaphysically realist understanding of reality or a full-blown idealist or anti-realist conception of the world as a human construction. The examples I shall provide should warrant the conclusion that transcendental philosophy *can* be both ontological and epistemological.

[13] Seibt 2000 also proposes a "recategorization" of traditional ontology along process-ontological lines, criticizing the "myth of the substance" in a manner not unrelated to Puntel's criticism. (She also develops this theme in her other writings.) It is worth noting that Seibt draws a sharp distinction between ontology and metaphysics: ontology, for her, is a theory of truthmakers and remains neutral with respect to the realism-versus-idealism debate, because different (e.g., realist or idealist) interpretations of the postulated truthmakers or categories are possible—these are "metaphysical valuations" of the structure(s) of truthmakers one is ontologically committed to.

[14] See also a number of relevant essays collected in Glock 2003, as well as Glock's contribution to the present volume.

[15] I shall particularly be concerned with Garver's (1994) Kantian interpretation of Wittgenstein, although of course I recognize that there is a plethora of rival readings around. On the dispute between Kantian and non-Kantian interpretations of Wittgenstein, see, e.g., Pihlström 2003, ch. 2.

5.1 Kant

The *locus classicus* for a view such as this is, of course, Kant's *Critique of Pure Reason*. While Kant examines, epistemologically, the necessary conditions for the possibility of cognitive experience (i.e., transcendental conditions such as space and time as forms of pure intuition, or *reine Anschauung*, and pure concepts of understanding, or categories, such as causality), his project remains inescapably ontological. In short, Kant seeks to describe and legitimate the transcendental conditions for the possibility of the objects of experience, not only of those of experience itself.[16] Indeed, his critical or transcendental philosophy is a project in which the distinction between ontology and epistemology or methodology is deliberately blurred. While a number of Kant's commentators have rightly defended him against the charge that he makes a metaphysically extravagant postulation of two worlds, one of which must remain unknown to us, these sympathetic commentators have sometimes gone too far in insisting that Kant's transcendental philosophy is purely epistemological or methodological, abandoning ontological theorizing and metaphysical assumptions altogether.[17]

Kant, then, is not only telling us what human reason, understanding, or cognition is like; he is also analyzing the conditions that any world capable of being cognized by us (or, in principle, by any creatures sufficiently like us, that is, finite rational beings with sensible and conceptual capacities) will inevitably have to meet. Idealism enters this picture as soon as we admit, with Kant, that one such condition is the transcendental dependence of any such world—its categorial structure—on the constitutive, "structuring,"

[16] See Kant, *Kritik der reinen Vernunft*, A 158/B 197. Kant says elsewhere that ontology should be replaced by the transcendental analytic, because no knowledge of things as they are in themselves (or of objects as such, *Gegenstände überhaupt*) is available to us (A 246–47/B 303), but he also seems to identify transcendental philosophy with ontology (A 845/B 873), indicating that transcendental philosophy ought to be understood not as a mere method but as an ontology of the human world, a humanized metaphysics—and thus something quite different from the transcendent metaphysical aspiration to come to know the general structure of the world in itself. In a sense, transcendental analytic, for Kant, does the traditional job of ontology in the sense of *metaphysica generalis*, while pre-critical forms of *metaphysica specialis* (rational psychology, rational cosmology, and rational theology) typically lead to transcendental illusions. Also, it may be argued that Kant's distinction between things in themselves and appearances (or, though this does not amount exactly to the same, between noumena and phenomena) is epistemological rather than ontological, designed to limit the area of human knowledge (cf. here Willaschek 1998); yet, such a limiting maneuver may have the transcendentally ontological result of giving an account of the general features of the humanly experienceable world (i.e., that any such world *is* necessarily spatiotemporal and conforms to the categories).

[17] Allison 2004 and Carr 1999 are cases in point. Cf. the critical discussion in Pihlström 2004a, 2004b, and 2009, ch. 3. One of the most important contributions to the discussion of Kant's views on realism and idealism in recent years is undoubtedly Westphal 2004, containing a vigorous attack on Allison's one-world (dual descriptions) reading of Kant.

powers of our sensibility and understanding (cf. section 6 below). In fact, we may note that the fundamental link between ontology and the study of our ways of cognizing reality is emphasized by Kant in his lectures on metaphysics even more clearly than in the first *Critique*:

> We now begin the science of the properties of all things in general which is called ontology. (Ontology is supposed to be the science that deals with the general predicates of all things—should the predicates not be universals [*universalia*], i.e., which are common to all things, then who knows what ontology is. They must belong to all things, if not copulatively, i.e. that they each belong to them, then at least disjunctively, one of the two, e.g., composite and not composite. . . .) One easily comprehends that it will contain nothing but all basic concepts and basic propositions of our a priori cognition in general: for if it is to consider the properties of all things, then it has as an object nothing but a thing in general, i.e., every object of thought, thus no determinate object. Thus nothing remains for me except the cognizing, which I consider. (Kant 2001/Ak. 29, 785)[18]

If ontology has as its object "every object of thought" and deals with the basic concepts and propositions of a priori cognition, then it is clear that ontological theories are not about what there is in a world independent of cognition. Yet for Kant, ontology definitely is about things and their basic predicates; it is not merely about human cognition, although it is essentially tied to the latter.

5.2 Strawson

Among Kant's innumerable followers, Strawson deserves a special mention, because he coined the term "descriptive metaphysics" (Strawson 1993), thus bringing the Kantian transcendental method of argumentation (i.e., the search for the necessary conditions for the possibility of something that is taken as given) and (more or less Aristotelian) metaphysics together. While his readings of Kant may be flawed in significant respects, given that he—at least in his major commentary on Kant's first *Critique* (Strawson 1966)—subscribes to the problematic two-worlds account of the relation between things in themselves and appearances (cf. Allison 2004), he did succeed in articulating, in an influential way, the interpretation of transcendental philosophy as a metaphysics of the human world. In Strawson's well-known characterization, descriptive metaphysics, as a description of "the actual structure of our thought about the world," is

[18] Olli Koistinen kindly drew my attention to this quotation from Kant's *Metaphysik Mrongovius* (1782–83). The reference to the English translation is given together with the *Akademie-Ausgabe* ("Ak.") reference.

contrasted to revisionary metaphysics (represented by Descartes, Leibniz, and Berkeley, among others), which seeks to produce a "better structure" (1993, 9). It is striking that Strawson's prime examples of descriptive metaphysics are Aristotle and Kant (ibid.); thus, the two poles of our distinction between the main rival conceptions of metaphysics are actually found on the same side of Strawson's dichotomy.[19]

Descriptive metaphysics, as practiced by Strawson, examines the "central core of human thinking which has no history," those "categories and concepts which, in their most fundamental character, change not at all," the "commonplaces of the least refined thinking" which form "the indispensable core of the conceptual equipment of the most sophisticated human beings" (ibid., 10). Thus, Strawson assumes a static picture of whatever it is that descriptive metaphysics is concerned with. The actual structure of our thought about the world changes little or not at all, according to him. The remaining examples we shall take a look at in the rest of this section should discourage such an assumption.

5.3 Wittgenstein

Wittgenstein, another significant source for Strawson, has often been seen as a thoroughly anti-metaphysical thinker.[20] Indeed, unlike Strawson, he seems to have thought that the fundamental structure of our thought about the world *may* change in the course of the natural history of human forms of life. In *On Certainty* (1969), in particular, he painted a picture of human language and thought in which the (rather nonfoundational) "foundation," or the "basic convictions," of our worldview may and do gradually change.

However, Kantian interpretations of Wittgenstein's (early and late) thought lead to a reinterpreted account of categories, bringing him close not only to the Kantian categorization project but also to the Aristotelian one. Newton Garver (1994, ch. 4) compares Wittgenstein's (1958) language-games to Aristotelian categories, while offering an otherwise Kantian (critical) reading of his thought. More precisely, according to Garver (1994, esp. 61, 69–72), language-games can be seen as a generalization of the project of Aristotle's *Categories*. The categories both Aristotle and Wittgenstein (contextualistically) study are "inextricably embedded in contexts of human action and interaction" (ibid., 72). Ontological categories, Garver says, are replaced by "dimensions of human activity" (ibid., 131). Language-games, as Wittgenstein's version of categories, are, indeed, "distinctly *human*" (ibid., 72). As such, they are "transcendental requirements upon the

[19] I believe Loux (2002, 18) is correct when he notes that while Strawson's language is "neo-Kantian," much of what he does in *Individuals* "embodies an Aristotelian approach" to metaphysics.
[20] Instead of Strawson 1993, cf. here his later reflections on skepticism and naturalism in Strawson 1985.

objects of our consciousness": "Nothing can be an object at all [for us] without being a thing of some kind (category) or other" (ibid.). Yet Wittgenstein's Aristotelianism should not be one-sidedly emphasized at the cost of his undeniable Kantianism:

> If Wittgenstein borrows from Aristotle the naturalistic idea that the categories are found in experience and may very well change, he is more insistent than Aristotle that they are found in our *linguistic* experience, rather than in the world of science.[21] Thus he equally borrows from Kant the idea that they are human inventions, belonging to the spontaneous rather than the merely receptive part of our cognition and created somewhat arbitrarily rather than imposed on us by external or internal reality. Since they filter reality for us, categories by their very nature presuppose the reality they filter; it would be transcendental illusion (in Kant's sense) to suppose that they might constitute that very reality. (Ibid.)

Here Garver in my view problematically subscribes to a dualism between reality (in itself) and the filter provided by the categories. It would surely be a transcendental illusion to suppose that categories—or language-games, our use of language—constitute or create the world ex nihilo. However, the transcendental idea of "constitution" (also at work in Kant's transcendental idealism) is not that simple-minded (see, again, section 6 below). Even so, Garver is right in insisting on the category-theoretic role played by Wittgenstein's examination of language-games. This is, in other words, to insist on the ontological (and not, say, merely methodological) relevance of language-games.[22]

In any event, Garver's suggestions (just like Strawson's view of descriptive metaphysics) may again lead us to think that the opposition between the Aristotelian and Kantian

[21] Contrast this to Strawson's static picture of the categories revealed by descriptive metaphysics, as briefly explicated above. Elsewhere, Garver (1994, 274) notes that Wittgenstein's conception of what is natural is close to Aristotle's: the natural covers everything encountered in the natural world, instead of being confined to what can be discovered by science. Correspondingly, the transcendental is not to be equated with anything supernatural but is to be conceived as "what lies within nature and outside the reach of science"; the notion of the transcendental signifies our recognition of "features of the natural world as elements or categories that enter our language and our activities as primitives, not questioned and not to be questioned, and that provide the basis or the framework for subsequent empirical investigations" (ibid.). Yet I would add that insofar as the transcendental element of nature can change (in the course of the changes of human forms of life and language-games), nothing that we presently consider transcendental is forever, necessarily, beyond the reach of science. Scientific, empirical explorations may throw light on transcendental features of language-games, too. (Cf. here Pihlström 2003, 2004b.) Otherwise, I certainly agree with Garver that a reasonable form of naturalism should not be scientistic but should also make room for the transcendental.

[22] For a brief critical discussion of "merely methodological" treatments of Wittgenstein, see Pihlström 2004a.

conceptions of ontological categorization need not be as sharp as it looks.[23] A Wittgensteinian grammatical investigation of the basic features of the language-games we naturally and habitually engage in may (we should agree with Garver) amount to a category theory, a metaphysical investigation of the structure of the human world we constantly shape through our linguistic conceptualization.[24] Such an investigation may remain genuinely philosophical, even constructive, although constructive philosophy is something that several followers of Wittgenstein's therapeutic method have found unsatisfying and deeply confused.[25] While metaphysical realism—which we might rephrase as the supposition that there could be objects in the world with their own categorial structures entirely independent of our language-games—can be subjected to a devastating Wittgensteinian critique, such a critique will leave a number of traditional metaphysical problems and concept(ion)s largely intact, provided that they can be given a suitably transcendental rearticulation. If so, we may agree with commentators such as José Medina (2002) that Wittgenstein embraces a "pragmatic contextualism" about language—about linguistic

[23] Thus, the tasks of transcendental ontology may not be as far from those of traditional Aristotelian ontology as the contemporary analytic metaphysicians cited in section 3 of this essay claim. After all, Aristotelian categories are themselves derived from possible uses of language (or forms of judgment and/or thought), and Kant, using Aristotelian logic, inherited this idea, though ending up with a quite different table of categories. Through his Kantian influences, transmitted via Schopenhauer, Wittgenstein can be said to have inherited the same essential link between language and the categories. If we are looking for a metaphysician who represents a view essentially different from both Aristotle's and Kant's (and, of course, Wittgenstein's) in this regard, one possible suggestion would be Spinoza. For him, the traditional ontological categories are necessarily exemplified; his ontological argument for substance is very different from the ways in which both Aristotle and Kant use the category of substance. (I am grateful to Olli Koistinen for this suggestion, as well as for the insight that, for these reasons, Kant's criticism of the ontological argument in the "Transcendental Dialectic" is highly important outside rational theology, as a response to rationalist metaphysics of Spinozist variety. Obviously, no examination of Kant's—or anyone else's—relation to Spinoza's views is possible here.)

[24] For an interesting, though definitely controversial, interpretation of Wittgenstein's anti-reductionist, "extremely rich ontology" (including ontologically explanatory theorizing), see von Savigny 2001. For example, Wittgenstein (1958, I, §198) explains, by referring to established customs, what rule-following amounts to (e.g., which role "going in the direction of the signpost's hand" plays in our practices); in this explanation, according to von Savigny (2001, 33), the entity involved in the explanation (viz., the custom) is "of an ontological structure that differs from" the structure of the entity that is to be explained (viz., the hiker's movement when he goes by the signpost). Von Savigny's reading may have its problems, but I tend to agree with the idea that there is an ontological aspect to Wittgenstein's (transcendental) explications (if not explanations) of the structure of humanly significant language-games. After all, as von Savigny also notes (ibid., 36), Wittgenstein himself (1958, I, §371) told us that essence "is expressed by grammar." The ontological and what Wittgenstein calls the grammatical are, in his later philosophy, more or less the same thing, insofar as it is "grammar" (in Wittgenstein's special sense) that delineates key features of the (changing, historically conditioned) human form(s) of life.

[25] See, e.g., McDowell 1996; for a critical discussion of McDowell's project, cf. Pihlström 2003, ch. 4. Schulte (2001, 50) is, I believe, on the right track when he reminds us that Wittgenstein's

meaning, intelligibility, normativity, and necessity—and rejects all metaphysically realist or foundationalist attempts to "ground" language in something more fundamental than our (changing) practices or forms of life themselves, while dispensing with Medina's (ibid., 152, 186–87) view that such an anti-essentialist and anti-foundationalist pragmatism must be non-transcendental. Unlike Medina, I would be prepared to describe Wittgenstein's conception of the dependence of language on our practices as transcendental (in a naturalized and "pragmatized" sense)—and even as transcendental in an ontologically relevant manner, given that language depends on "worldly contingencies," on there being uniformities or regularities in the speakers' actual environment (ibid., 171), that is, on "very general facts of nature" (ibid., 189–91; see Wittgenstein 1958, II, 230).[26]

Wittgenstein, after all, does make ontologically relevant (or at least relevant-sounding) statements, such as his claims that his investigations are about the "possibilities of phenomena" (Wittgenstein 1958, I, §90) and that essence is expressed by grammar (ibid., I, §371; see also §373). Grammar, or more generally the study of language-games, tells us what kind of a thing something is. Things are in a way or another only relative to, or within, or from the perspective of, certain ways of using language in worldly human circumstances ("forms of life"). What I am suggesting is that the apparent ontological relevance of Wittgenstein's statements about things, phenomena, the world, and so on should not be interpreted away; nor, of course, should it be distorted by a metaphysically realist misinterpretation. Rather, it should be pragmatically reinterpreted, pointing out the pragmatic-cum-transcendental nature of his ontology.[27]

5.4 Pragmatism

Finally, something quite similar can be said about pragmatism, which, I believe, can be (re)interpreted as a way of emphasizing the practice-ladenness of ontological commitments and thus the transcendental role that practices of various kinds play for our categorizations

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(alleged) quietism does not seek "peace" in the sense of inactivity or indifference but in the sense of "the calmness required if one wants to go about one's [philosophical] business as efficiently as possible": "Wittgenstein really is a quietist in the sense that he advises us to refrain from walking all those philosophical paths which lead us to tormenting and constantly worrying or puzzling questions that we cannot hope to answer satisfactorily. But he is not a quietist in the sense of recommending us to refrain from *exploring* these paths in a way which allows us to see what is wrong with them" (ibid.). Someone who endorses Schulte's reading need not construe Wittgenstein as an ontological category theorist, but such a (re)construal is certainly possible for those who refuse to read him as a quietist in the strong sense.

[26] My earlier "transcendentally pragmatist" reading (or reconstrual) of Wittgensteinian views should be relevant against Medina's (and many others') non-transcendental account, though this is not the right place to go into the matter in any detail (cf. Pihlström 2003, esp. ch. 2).

[27] Ted Schatzki has argued, in conversation, that Wittgenstein ought to be read as a "philosopher of actuality," as a philosopher describing certain features of human reality. As far as this is a statement

of reality. It is only within purposive human practices that reality is, for us, in one way or another. It is only within such practices that objects (or entities falling under other ontological categories) can be so much as identified and reidentified. Practices or human habits of action—which can be seen as deeply analogous to Wittgenstein's language-games or forms of life—do not, of course, construct the world (or, rather, only a very radical pragmatist would claim they do), but their transcendental role in the constitution of the world of experienceable objects is roughly analogous to the way in which phenomenologists postulate a transcendental ego, subject, or consciousness as the necessary background for the emergence of a meaningfully experienceable objective reality.[28]

All of these philosophical orientations—which, of course, are too broad to describe here except in these general terms, omitting all kinds of interesting details—may be said to end up with a conception of the mind-dependence, or better, conceptualization-dependence, of ontological categories (cf. Pihlström 1996, 1998, 2002, 2009). Ontology is, for Kantians, Wittgensteinians, and pragmatists (though perhaps in somewhat different ways), first and foremost a human project of categorizing the world, *not* (as in the traditional Aristotelian metaphysician's understanding) a project of discovering the categories that are already there, embedded in the structure of the world, independent of human categorization. The Wittgensteinian and pragmatist novelty in this discussion is the addition that this categorization or conceptualization contains an irreducibly practical dimension: it is in and through our practices of coping with the world that the world gets structured by us. It is the task of ontology or (general) metaphysics to examine the transcendental conditions for the possibility of the various structures it does (or can) receive through our categorizing activities.

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about the ontological relevance of his views, I am in complete agreement. But Schatzki goes on to claim that it is difficult to draw any modal (transcendental) conclusions about necessities from such descriptions of actualities even if the actualities of the human form(s) of life described are universal (e.g., things that we simply do not doubt; cf. Wittgenstein 1969). Wittgenstein, in brief, describes us, the way our world is, but those descriptions can hardly yield modal truths about how we, or our world, must be. At this point, I would be prepared to argue that examining what the world is or means for us, as seen from within the language-use we currently engage in, does yield insights into how we can or cannot view the world, given the way our lives are, here and now, organized. The pragmatic (transcendental) possibilities and necessities structuring our lives, and the world we encounter through those lives, are contingent in the sense of being based on our potentially changing human nature. Wittgenstein as a "natural historian" of human forms of life is, then, indistinguishable from Wittgenstein as a transcendental philosopher of language, given that pragmatic and transcendental perspectives to what makes the world a possible object of cognition and representation for us can be synthesized in the manner I have suggested (both here and elsewhere).

[28] I have dealt with this ontological interpretation of pragmatism (and made some comparisons to phenomenology) in Pihlström 1996 and 2003; see also Pihlström 2002. Here I make no claims to interpreting any of the classical or contemporary pragmatists, but it should be clear that Hilary Putnam's views on realism are somewhat close to the position I am aiming at (although it should be noted that Putnam would not accept the transcendental vocabulary I help myself to).

It is in these terms that I would like to reinterpret the idea of ontology as a category theory, and—correspondingly—of transcendental philosophy as an ontological inquiry into the structure of the humanly categorized world. Ontology, according to this view, is not merely an investigation of our thought or conceptual schemes; it does inquire into the categorial structure of the world. But it starts from the humanist thesis that we provide that (or any possible) structure to the world through our conceptualizations, which, however, are themselves based on materialized practices in the world, too.

6. IS (ANY) TRANSCENDENTAL ONTOLOGY OF THE HUMAN WORLD COMMITTED TO IDEALISM?

It is a large and still essentially open issue whether any form of realism can be defended at all if one adopts this Kantian-cum-pragmatist (or constructivist, or Wittgensteinian) view of the dependence of the structure of the world on human conceptual categorization. Are we committed to idealism if we endorse any of the transcendental approaches to the categorization of reality explicated in the previous section? Moreover, are we committed to transcendental idealism, in particular?

I do believe that a pragmatic realism is defensible in this situation, though unfortunately I cannot discuss this matter in any detail here (see Pihlström 1996, 1998, 2003, 2009). However, I want to draw attention to a recent Kantian-like transcendental argument for (pragmatic) realism, formulated in an insightful manner by Kenneth R. Westphal, a distinguished Kant and Hegel scholar, in a series of writings in the 1990s and early 2000s (see Westphal 1989, 2003, 2004). Westphal believes that Kant's transcendental idealism is unable to account for one of the crucial transcendental conditions for the possibility of self-conscious experience recognized by Kant himself, namely, the "transcendental affinity of the sensory manifold" (cf. Westphal 2004, ch. 3). What this means is, roughly, the following. In order for human beings (that is, beings with the kinds of cognitive capacities and incapacities that we can, with careful epistemic reflection, identify in our own case) to be self-conscious, the world in which they live must contain a certain minimal degree of regularity and variety in its contents. Below such a minimum degree, a "transcendental chaos" would obtain; such a world would be utterly cognitively incapacitating for us. We could not form causal judgments in such a world, and thus we could not identify external objects; hence, we could not be conscious of ourselves as subjects of temporally subsequent experiential states at all—given Kant's argument, in the "Refutation of Idealism" (the famous chapter added to the 1787 B-edition of the first *Critique*), to the effect that outer experience of spatiotemporal objects in our environs is necessary for us to be able to experience our (temporal) internal states. On these resolutely anti-Cartesian grounds, Westphal offers a truly transcendental argument for an "unqualified" realism, or "realism *sans phrase*," which (in his view) should *not* be

conflated with Kant's merely empirical realism (which, according to Kant, is dependent on, or defensible only within, transcendental idealism).[29] In short, Kant's own conception of transcendental affinity as a transcendental material condition for the possibility of self-conscious cognitive experience—a condition that is, in fact, both material and formal, yet neither conceptual nor intuitive (i.e., not reducible either to Kant's *Anschauungsformen*, which are space and time, or to the categories)—provides a strong case against his transcendental idealism, Westphal claims. The objects of the world we live in (a world in which we can be self-conscious) must themselves be regular and variable enough; their characteristics (including their spatiotemporality) cannot, contra transcendental idealism, be derived from our cognitive capacities, if we are to explain the very possibility of self-conscious experience.[30]

Westphal's impressive argument, as far as it goes, seems to me to be sound, although, admittedly, a number of intricacies of Kant scholarship must be settled before it goes through.[31] However, it may be claimed that in the end it only yields empirical realism, a moderate form of realism that is compatible with (though it may not require) a pragmatically reinterpreted form of transcendental idealism, or perhaps with a Wittgensteinian variant of this Kantian doctrine, if not with Kant's own brand of idealism. The conception of transcendental philosophy as an ontology of the human world may be argued to be committed to such an idealism, which in my view is not ruled out by Westphal's argument. At least so it seems, insofar as that conception entails that our human world is thoroughly linguistically and/or conceptually shaped (i.e., categorized by us), and that there is for us humans no primary metaphysical, underlying non-linguistic reality grounding our language (except in a trivial causal or ontic sense, instead of a genuinely ontological and transcendental one). However, this view, at least in the pragmatist or Wittgensteinian formulation given here, is no normal kind of idealism, and it seems to be quite far from Kant's original transcendental

[29] Westphal 2004 is emphatic about Kant's radically anti-Cartesian and (in contemporary terms) externalist (instead of internalist) conception of mental content.

[30] Versions of this transcendental (and pragmatic) argument for realism and against idealism, an argument that essentially defends the dependence of the very possibility of thought and experience on the objects of our environment, have, according to Westphal, been provided by Hegel (see Westphal 1989, 2003) and by the unduly neglected pragmatist Frederick Will (see Will 1997). Cf. the discussion in Pihlström 2003, ch. 5. Rescher's discussion of the ontological systematicity of nature as a "causal requisite" for our being able to engage in successful "systematizing inquiry" (2000, 18–19) seems to me to be significantly weaker than Westphal's properly transcendental argument. For Westphal's important insistence on the fallibility of transcendental arguments and transcendental reflection, see Westphal 2004.

[31] These include the complex relation between *Kritik der reinen Vernunft* and *Die metaphysische Anfangsgründe der Naturwissenschaft*, a topic dealt with in detail in Westphal 2004 but, for obvious reasons, neglected here.

idealism after all. The transcendental philosopher need not claim that the world, or its categorization, or its spatiotemporal structure, simply depends on us, let alone on our mental capacities.[32]

The dependence relation is neither simply from our concepts to the world or from the world to our concepts, but holds in both directions: the structure of the world, or any world we are able to experience, depends transcendentally on our conceptualizing activities (on the categories we provide), while those activities themselves are causal (ontic, factual, natural) products of the natural world itself, in which we live and move and have our being as fully natural beings, amidst all kinds of material and social practices. The latter, naturalist part of the thesis can be easily defended by referring to the results of the natural and the human sciences, while the former, properly transcendental part requires a transcendental argument focusing on the very possibility of experience (e.g., along Wittgensteinian lines, with special emphasis on language-games as the background against which meaningful identification of objects is possible for us). There is, in this heavily qualified idealistic picture, no transcendental ground for our activity of (linguistic) categorization itself, because that ongoing process is itself the transcendental ground for whatever structure our world may have, but it is undeniable that no such process would obtain if we did not inhabit a natural world whose objects and processes possess a sufficient degree of regularity and variety (as argued by Westphal)—although, again, it is only through our use of the conceptual scheme in which these notions have their home that we can reach such a transcendental conclusion.

Insofar as Westphal emphasizes the importance of (fallible) transcendental reflection on human cognitive capacities and the need to embrace an essentially pragmatic form of realism about the objects of one's environment, I have the pleasure to report that the kind of transcendental ontology of the human world I have recommended in the previous sections is entirely compatible with his view. Indeed, I am more than happy to have such a learned Kant scholar on my side! The transcendental argument for (not

[32] In an earlier work (Pihlström 2003, esp. ch. 5), I criticized Westphal's earlier formulations (e.g., Westphal 1989; cf. Will 1997), defending a reinterpreted (and to some extent naturalized) transcendental idealism. I now see this dispute as more a matter of words than of philosophical substance, although I do not want to deny that disputes about words are genuinely important—even substantial—in philosophy. (This entire paper is actually about how to use the term "transcendental philosophy" in an interesting and philosophically responsible way.) While I still believe that a certain kind of picture resembling idealism (in the Kantian sense) is defensible, on either Wittgensteinian or pragmatist grounds, I recognize that this picture is quite far from what transcendental idealism means for Kant, and it may even be fully compatible with what Westphal says about his "realism *sans phrase*." It is important to note that for Westphal (2004), unqualified realism is designed to be a minimal doctrine quite distinct from all kinds of qualified realisms we find in recent philosophical debates, including both metaphysical and internal, as well as commonsense and scientific, realism.

unqualified but pragmatic) realism provided by Westphal offers one more example of a truly ontological result emerging from transcendental reflections. This kind of ontological realism is a part—a crucial part—of our transcendental ontology of the human world. Yet (and this, I submit, may be the element of my view not entirely congenial to Westphal) precisely for this reason pragmatic realism must be subordinated to a transcendental account of our way(s) of categorizing reality. Realism, just like any other ontological commitment, is a human way of structuring the world.[33]

7. CONCLUSION

There can be no denying the fact that transcendental philosophy is critical of metaphysics (cf., again, Allison 2004; Carr 1999). The object of its critical attitude is, however, a traditional pre-Kantian, pre-critical form of metaphysics—a form of metaphysics that is not properly transcendental but which, instead, aspires to discover truths about the transcendent. It is entirely compatible with this critical attitude to claim (contra purely epistemological or methodological interpretations such as Allison's or Carr's) that transcendental philosophy is also a form of human metaphysics, or a human form of metaphysics, aspiring to find out some basic categorial features of the world-as-a-world-for-human-beings-to-live-in. It is, then, always already a humanly conceptualized reality that the transcendental metaphysician examines.[34] This is very far from the transcendent pre-critical metaphysician's attempt to discover truths about things in themselves, or about Being qua Being—although, given Garver's views on Wittgenstein's Kantian and

[33] See again, e.g., Pihlström 1996, 2003, and 2009 for various possible ways of further developing this thesis. Among the numerous philosophers I am indebted to in defending this view, I want to acknowledge Joseph Margolis, for whom realism is precisely a (historicized) human account of the (in a sense humanly "constructed") world (see, e.g., Margolis 1995). A very different contemporary thinker worth mentioning in this context is Nicholas Rescher, who has repeatedly argued that realism should be regarded as a presupposition of empirical (especially scientific) inquiry rather than a thesis validated through such inquiry (see Rescher 2000, ch. 5). More generally, Rescher views metaphysics as "a matter of elucidating the presuppositional backyard of [scientific] knowledge by means of *second-order reflection*," addressing "higher-order questions about the accessibility and the nature of such knowledge" (ibid., 5). Thus, the question of "what features of the world must be accepted through the very fact that our scientific information about it arises in the way that we find it does" is to be discussed within metaphysics (ibid.); on this articulation of metaphysics, the aim of metaphysical inquiry is to "enable us to understand how it is that we humans, circumstanced as we are and proceeding in the way we do, are able to devise a reliable account of the *modus operandi* of the world we live in" (ibid., 4). Metaphysical views, including realism, can, according to Rescher, be only "retrospectively" (and pragmatically) validated through the success of the inquiries whose presuppositions they are.

[34] Within such a "human reality," the transcendental metaphysician can easily follow, say, Armstrong (2004) in postulating truthmakers for various sorts of truths we cannot help believing to be true. For

Aristotelian category theory (cf. section 5 above), we have to qualify the sharp contrast between Kantian and Aristotelian conceptions of metaphysics we started from.

We may also note that transcendental philosophy, while critical of metaphysics in the sense outlined above, need not and should not be committed to the claim that "metaphysics is dead," a thesis defended in different ways by both empiricists (not only old-fashioned logical positivists but also more recent philosophers such as Van Fraassen [2002])—and postmodernists or deconstructionists of various stripes (see, e.g., the contributions to Wrathall 2003). Instead, transcendental philosophy, in contrast to these trends of modern thought trying to get rid of metaphysics, yields a metaphysics *aufgehoben*, overcome yet preserved in a reinterpreted form that has learned something from post-Kantian criticism of metaphysics. On the other hand, the transcendental philosopher, avoiding both empiricism and postmodernism, may agree with Van Fraassen (2002) that there is something seriously wrong with recent analytic metaphysics, or with thinkers such as Gianni Vattimo that metaphysical (or "onto-theo-logical") treatments of religion in terms of theism are misleading both religiously and philosophically (see again Wrathall 2003).

I have, in addition to my general defense of a Kantian conception of transcendental philosophy as ontology, suggested that a pragmatist and/or Wittgensteinian (re)articulation will help to bring to the fore the true significance of such a conception. I admit, however, that such rearticulations are endlessly debatable. In this essay, I have not wanted to make any strong interpretive claims about either Wittgenstein or the pragmatists. Both, as I read them, can be seen as transcendental metaphysicians (see Pihlström 2003, 2004b), but I am sure that a number of Wittgenstein scholars and pragmatism scholars will fiercely resist this suggestion. I hope, however, that I have supplied sufficient reasons for believing that transcendental philosophy can be interpreted as a form of ontology, at least if both notions—the notion of the transcendental and the notion of ontology—are pragmatically reconceptualized.[35] Furthermore, I hope

example, Armstrong's postulation of states of affairs may be perfectly all right within a merely empirical or pragmatic realism, given that the metaphysically realist assumptions of his theory are abandoned. However, this is not to say that everything that a metaphysician such as Armstrong chooses to postulate could be tolerated by a pragmatist or transcendental metaphysician: for instance, Armstrong's "totality states of affairs" should be viewed with suspicion. In any case, the transcendental metaphysician may freely—pragmatically—use a tool box containing a number of different ontological methodologies, including Armstrongian truthmaking considerations, the Wittgensteinian "looking at" how expressions are used within language-games (either actual or conceivable ones), pragmatist arguments, etc. The transcendental metaphysician is a pluralist when it comes to the methods of ontology.

[35] In a recent work (Pihlström 2009), I further argue that a pragmatic reconceptualization of the project of ontology (transcendentally conceived) yields not merely an integration of metaphysics and epistemology (as in Kant) but also an integration of metaphysics and ethics. This is because the human world we ontologically categorize cannot be categorized value-neutrally but will inevitably be colored by our valuational schemes.

to have been able to illuminate the complicated ways in which the problem of realism must be taken into account in transcendental reflection.

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